



INITIAL STUDY FOR THE COTTAGE CREEK MICROWAVE TOWER INSTALLATION PROJECT

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMM	Avoidance and minimization measure
Basin	Sacramento Valley Air Basin
BMPs	best management practices
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CNDDDB	California Natural Diversity Database
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
CRPR	California Rare Plant Rank
dB	decibels
dBA	A-weighted decibels
dbh	diameter at breast height
DPM	Diesel particulate matter
ESA	Federal Endangered Species Act
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FCAA	Federal Clean Air Act
FERC	Federal Energy Regulatory Commission
FR	Federal Register
FRAQMD	Feather River Air Quality Management District
ft	feet
FTA	Federal Transit Administration
GHG	greenhouse gas
kw	kilowatt
lbs/day	pounds per day

ACRONYMS AND ABBREVIATIONS

Leq	equivalent noise level
Leq[15]	equivalent noise level for a 15-minute measurement period
Lmax	maximum noise level
Lmin	Minimum noise level
MBTA	Migratory Bird Treaty Act
MT	metric tons
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NBBD	New Bullards Bar Dam
NM	Noise Measurement
NO ₂	nitrogen dioxide
NO _x	nitrous oxides
NPDES	National Pollutant Discharge Elimination System
O ₃	Ozone
PG&E	Pacific Gas and Electric
PM ₁₀	coarse particulate matter - from 2.5 to 10 microns in diameter
PM _{2.5}	Fine particulate matter - less than 2.5 microns in diameter
PPV	Peak particle velocity
RCNM	Roadway Construction Noise Model
RMS	Root mean square
ROG	reactive organic gases
SB	Senate Bill
SF ₆	sulfur hexafluoride
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	sulfur dioxide
TAC	toxic air contaminant
TSS	total suspended solids
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VdB	vibration decibels
VMT	vehicle miles traveled
YCWA	Yuba Water Agency

1 INTRODUCTION

1.1 Project Overview

Yuba County Water Agency (YCWA) owns and operates New Bullard's Bar Dam (NBBD) located approximately 3.5 miles northeast of Dobbins in Yuba County, California. Communications from NBBD to YCWA operational staff is critical to monitor daily operations and in case of an emergency at or near the dam. The current communication pathway is from an existing microwave dish located on NBBD to a repeater located on Oregon Peak. The Federal Energy Regulatory Commission (FERC) recently recommended that YCWA upgrade their communications pathways at NBBD to create better coverage for monitoring cameras at the dam site and to ensure constant connectivity from the dam location to YCWA staff in case of an emergency.

The proposed "Cottage Creek Microwave Tower Installation Project" (Proposed Project) consists of constructing a telecommunication site in the north corner of the Cottage Creek Water Treatment Plant laydown yard and a passive repeater approximately three quarters of a mile from this telecommunications site. In addition, YCWA also proposes to retrofit the electrical infrastructure at the telecommunications tower and water treatment plant site and combine the multiple power feeds into one service under one meter.

1.2 Regulatory Guidance

This document evaluates the potential environmental impacts of the Proposed Project. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., and the CEQA Guidelines, Title 14 California Code of Regulations section 15000 et seq. This Initial Study was prepared by YCWA to determine if the Proposed Project could have significant impacts on the environment.

In accordance with CEQA Guidelines section 15064(a), an Environmental Impact Report must be prepared if there is substantial evidence that a project may have significant impacts on the environment. If the lead agency for the CEQA process determines that there is no substantial evidence for such impacts, or if the potential impacts can be reduced through revisions to the project description or the addition of mitigation measures, a Negative Declaration or Mitigated Negative Declaration can be prepared (CEQA Guidelines section 15070). YCWA, as the CEQA lead agency for the Proposed Project, has determined that an Initial Study and Mitigated Negative Declaration are the appropriate document for compliance with CEQA and the CEQA Guidelines.

1.3 Public Review

In accordance with CEQA Guidelines section 15073, this document would be circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on it. In reviewing this Initial Study and proposed Mitigated Negative Declaration, affected public agencies and the interested public should focus on whether the document sufficiently identifies and analyzes the possible impacts on the environment.

Following the close of the public review period, the YCWA Board of Directors would review and evaluate the evidence contained in the Initial Study and proposed Mitigated Negative Declaration and public comments received on these documents. At a scheduled and noticed YCWA Board of Directors public meeting, the Board would review a Statement of Findings prepared for the Proposed Project and would consider adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, and approval of the Proposed Project.

1.4 Summary of Findings

Section 3 of this document contains the analysis and discussion of potential environmental impacts resulting from construction and implementation of the Proposed Project. Based on the resources evaluated, it was determined that the Proposed Project would have no impact on the following resources:

- Agriculture and Forestry Resources
- Land Use/Planning
- Mineral Resources
- Population/Housing
- Public Services

Impacts of the Proposed Project were determined to be less than significant for the following resources:

- Aesthetics
- Air Quality
- Energy
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology/Water Quality
- Noise
- Recreation
- Transportation
- Utilities/Service Systems
- Wildfire

Impacts of the Proposed Project to the following resources would be less than significant with incorporation of the mitigation measures described in Section 3:

- Biological Resources
- Cultural Resources
- Tribal Cultural Resources

As required by CEQA, a Mitigation Monitoring and Reporting Program will be prepared and adopted at the time of project approval. It will include those mitigation measures that will reduce potentially significant environmental impacts to less than significant levels.

1.5 Document Organization

This document is organized in the following manner:

- **Section 1 - Introduction.** This section provides a project overview and regulatory guidance and describes the public review process and organization of this document.
- **Section 2 - Project Description.** This section describes project location, history and background, purpose, and components.
- **Section 3 - Environmental Checklist.** This section provides an environmental setting for the Proposed Project and analyzes the potential environmental impacts of the Proposed Project. Resource topics appear in the order that they appear in Appendix G (Environmental Checklist) of the CEQA Guidelines. Mitigation measures are incorporated and discussed, where appropriate, to reduce potentially significant impacts to a less than significant level. Mandatory Findings of Significance also are presented in this section.
- **Section 4 - List of Preparers.** This section contains a list of people that assisted in the preparation of this document.
- **Section 5 - References.** This section identifies the references used in the preparation of this document.

2 PROJECT DESCRIPTION

This section describes the Proposed Project location, provides history and background of the project site, describes the purpose, and provides a detailed description of the project components.

2.1 Project Location

The Proposed Project area is comprised of two separate locations, the telecommunications tower site and the passive repeater site. The telecommunications tower site is located northwest of NBBD and the passive repeater site southeast of NBBD. The Proposed Project sites are located in Sections 25 and 26 of Township 18 North, Range 7 East, as depicted on the Challenge 2000 USGS 7.5-minute quadrangle (Mount Diablo Base and Meridian) (**Figure 1**).

The Proposed Project sites, more generally, are located, in northeastern Yuba County, approximately 30 miles northeast of Yuba City, at an approximate elevation of 2,000 ft, adjacent to the Tahoe National Forest (Figure 1).

As described above, the Proposed Project sites are located adjacent to NBBD and Reservoir on YCWA owned lands. In addition, the telecommunications tower site is located within the area of infrastructure associated with Emerald Cove Marina, and thereby located near the parking lot, restrooms, and water treatment facility of the marina (**Figure 2**).

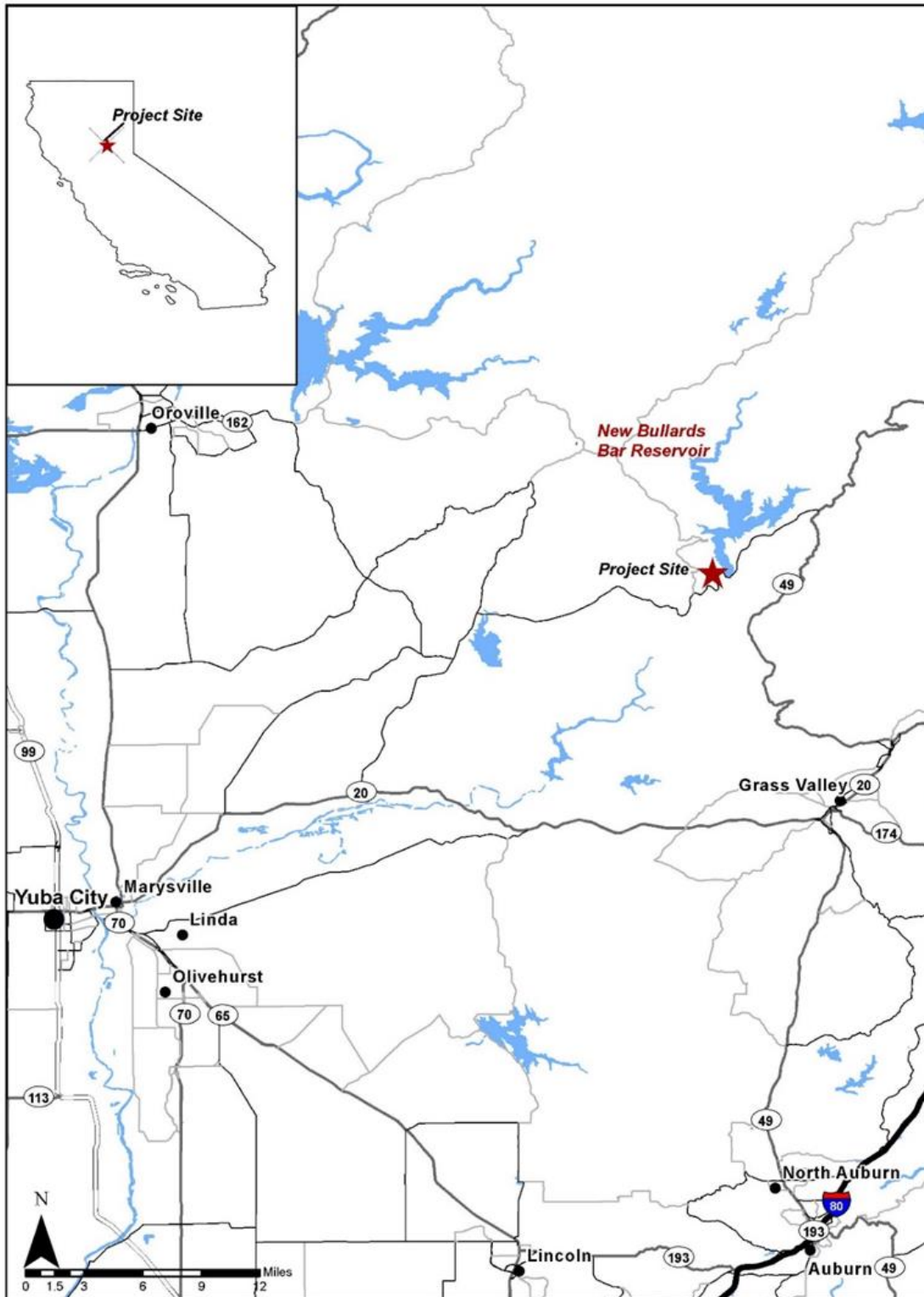


Figure 1. Cottage Creek Microwave Tower Installation Project Regional Location Map



Figure 2. Cottage Creek Microwave Tower Installation Project Project Location Map, including the microwave tower and passive repeater sites.

2.2 Project Purpose

The purpose of the Proposed Project is to construct a new microwave communications pathway in order to respond to a FERC recommendation to upgrade the communication system at the NBBD to ensure constant connectivity and better coverage relative to YCWA's ability to send and receive communications from the NBBD. YCWA currently utilizes a microwave dish located on the dam for NBBD communications, however, the existing communications pathways do not have connectivity to locations that FERC has recommended for installation of additional cameras and does not adequately create a stable communication pathway out of the probable maximum floodplain area, in case of an emergency.

2.3 Project Components

2.3.1 Project Description

The Proposed Project consists of constructing a telecommunication site in the north corner of the Cottage Creek Water Treatment Plant laydown yard and a passive repeater approximately three quarters of a mile from the telecommunications site. In addition, YCWA also proposes to retrofit the electrical infrastructure at the telecommunications tower and water treatment plant site and combine the multiple power feeds into one service under one meter.

Approximately 500 feet (ft) northwest of the left abutment of the NBBD, YCWA owns and operates an existing water treatment plant that provides potable water to Emerald Cove Marina and a nearby U.S. Forest Service campground facility. YCWA proposes to construct the telecommunication site in the north corner of the water treatment plant laydown yard (Figure 2). The telecommunications site will include an approximately 40' tall microwave tower, backup generator and concrete pad, 1,000-gallon propane tank and pad, and 10' X 12' telecommunications building to provide connectivity for dam security, safety, equipment monitoring and controls. Power would be extended to the telecommunications building and the electric feed would be routed underground.

In order to create a pathway from the proposed new microwave tower at the water treatment plant site to Oregon Peak, YCWA proposes to construct a passive repeater on YCWA-owned land approximately 0.75 miles southwest of the water treatment plant site (Figure 2).

As part of the Proposed Project, YCWA also proposes to retrofit the electrical infrastructure at the telecommunications site and combine the multiple power feeds into one service under one meter. Currently, the electrical service to the water treatment plant is from Pacific Gas and Electric (PG&E)-owned two 15KVA pole mounted transformers in open delta creating a 120/240V three phase overhead service drop at an existing service entrance panelboard located on the south east corner of the water treatment plant. Also, another PG&E-owned pole mounted transformer feeds the existing lighting loads in the existing parking lot.

YCWA proposes to remove the overhead service drops and replace with a single underground electrical service to a new service entrance panelboard with a meter which will distribute power to the electrical loads at the water treatment plant, telecommunications building, parking lot lights and restrooms, and an automatic gate opener.

In addition, YCWA proposes to install a new propane engine generator and associated propane tanks to support both the telecommunications building and the water treatment plant during power outages.

The existing communication dish located on NBBD will be left in place and used as a backup communications pathway.

Construction of the Proposed Project includes five major components:

1. Mobilization;
2. Clearing and grubbing;
3. Construction of the microwave tower and passive repeater structure, and associated infrastructure;
4. Retrofit of the electrical infrastructure at the telecommunications site and existing water treatment plant site; and
5. Demobilization.

Each of these construction components is described in detail in the following sections. **Appendix A** contain detailed engineering drawings of all construction activities.

The Proposed Project also includes operations and maintenance of the new facilities.

2.3.2 Mobilization

Prior to the initiation of construction work, the contractor will define an area in the vicinity of the Proposed Project sites to store construction materials and equipment (i.e., the staging area). The exact location of the staging areas will be determined by the contractor, but one will be located within the parking lot of the marina facilities, which would eliminate potential impacts to vegetation and other resources, and the second staging area will be located near the passive repeater site in a clearing approximately 150 ft from the actual construction location. The staging areas will be enclosed with construction fencing covered with a mesh screen to limit visibility to the sites. Construction and equipment staging and stockpiling will take place within the staging area and all materials shall be stored above ground on platforms, skids or other supports. All materials and equipment will be mobilized from the staging areas. Mobilization is expected to take 1–2 days.

2.3.3 Clearing and Grubbing

As described above, the Proposed Project area is comprised of two separate locations, the telecommunications site and the passive repeater site. The telecommunications site is located northwest of NBBD and consists of a 0.3-acre gravel area where minimal, if any, clearing and grubbing will be required (**Figure 3**). The passive repeater will be located southeast of NBBD on a 0.13-acre site located on a vegetated hillside overlooking the telecommunication site (**Figure 4**). The passive repeater site is generally cleared of vegetation (see Figure 4 below), but to prepare the site for construction a minimal amount of vegetation will need to be removed. Vegetation to be

cleared and grubbed include blackberry brambles and shrubs. Clearing and grubbing at the two sites is expected to take two days.



Figure 3. Location of the Proposed Microwave Tower and Associated Infrastructure.



Figure 4. Location of the Proposed Passive Repeater.

2.3.4 Construction of the Microwave Tower and Passive Repeater Structure, and Associated Infrastructure

As described above, YCWA proposes to construct a telecommunications site in the north corner of the water treatment plant laydown yard. The telecommunications site will include a 40' microwave tower and 10' X 12' telecommunications building that will provide connectivity for dam security, safety, equipment monitoring and controls. The microwave tower would include two 8' antennas and a lightning rod on top of the tower. Power would be extended to the telecommunications building and the electric feed would be routed underground.

In order to create a telecommunications pathway from the proposed new 40' microwave tower to Oregon Peak, the site of the existing telecommunications tower, YCWA proposes to construct a 35' tall repeater tower that would include a single 8'x12' billboard type passive repeater that would be placed near the top of the repeater tower. This structure would be on approximately 0.13 acres of YCWA-owned land located approximately 0.75 miles southwest of the water treatment plant site. Engineering drawings for the telecommunications and passive repeater structures are located in Appendix A.

The construction of the telecommunications site entails excavation for the ground grid, telecommunications tower foundation, telecom foundation, generator foundation and trenching for power and communications cables. The total excavation will be approximately 75 cubic yards of native material. After excavation, all communication, power, and propane lines will be run, as well as the ground grid for the yard will be installed. The electric runs total approximately 500ft with the propane line running less the 25ft. Approximately 55 cubic yards of aggregate base will be compacted in place once the ground grid for the new telecommunications yard is installed. The remaining fill will be the approximately 20 cubic yards of concrete needed for the various facility foundations.

Upon completion of the civil work construction of the microwave tower will be conducted by a crew of between 5–10 people dependent on how the subcontractor stages the work to be conducted.

Equipment needed for the foundation work and excavation will be a small excavator and a small loader (i.e., bobcat). A crane would be used for construction of the tower.

There will be minimal excavation and foundation work for the erection of the passive repeater, less than two yards of material, and the crew will be the same that erects the tower, with the same equipment needed.

Construction of the telecommunication site and passive repeater is expected to take 60–70 days to complete.

2.3.5 Retrofit of the Electrical Infrastructure at the Telecommunications Site and Existing Water Treatment Plant Site

YCWA will retrofit the electrical infrastructure at the telecommunications site and existing water treatment plant site and combine the multiple power feeds into one service under one meter. Currently, the electrical service to the water treatment plant is from two PG&E owned 15KVA pole mounted transformers in open delta creating a 120/240V three phase overhead service drop at an existing service entrance panelboard located on the south east corner of the existing water treatment plant. Also, another PG&E owned pole mounted transformer feeds the existing lighting loads in the existing parking lot.

YCWA proposes to remove the overhead service drops and replace with a single underground electrical service to a new service entrance panelboard with meter which will distribute power to the electrical loads at the water treatment plant, telecommunications building, parking lot lights and restrooms, and a new automatic gate opener to replace the current manual entry.

In addition, YCWA proposes to install a new propane powered generator and associated propane tank to be used as a backup power supply during power outages for both the telecommunications site and the water treatment plant.

Engineering drawings for the electrical infrastructure retrofit are located in Appendix A. Construction of the electrical infrastructure entails excavation for the propane tank, generator foundation, and trenching for back-up power to water treatment plant as well as a new power run.

After excavation all communication, power, and propane lines will be run. All the excavated areas will be backfilled with concrete to limit depth of trench and expediate the facility access.

Upon completion of the civil work the placement of the generator and propane tank will occur with the final electrical and plumbing activities to follow. Equipment needed for the foundation work and excavation will be a small excavator, small loader (bobcat), and crane for placement of the propane tank and generator.

Retrofit of the electrical infrastructure is expected to take approximately 7 to 11 days to complete.

2.3.6 Demobilization

At the completion of the Proposed Project, general site clean-up and equipment removal from the work areas will occur. These activities will include: removal of trash, debris, construction materials; regrading of staging and storage areas if necessary; seeding, mulching, and/or rocking the exposed earthwork; and removal of all temporary signage and fencing. Demobilization is expected to take approximately 5 days.

2.3.7 Operations and Maintenance

Project operations would commence in 2021 as soon as the Proposed Project is complete. YCWA staff that currently work at NBBD and/or the water treatment plant would oversee operations at the Proposed Project sites. The Proposed Project would operate with very little staff oversight.

At the passive repeater site vegetation clearing and grubbing would occur regularly as needed to ensure the passive repeater is not blocked by vegetation regrowth. Vegetation maintenance at the passive repeater site would require the same types of vegetation to be cleared and grubbed as the Proposed Project construction. As such, vegetation maintenance would require removal of blackberry brambles and shrubs. Clearing and grubbing would occur with handheld tools. Annual clearing and grubbing at the passive repeater site is expected to take less than one day a year and would be completed by YCWA staff.

2.3.8 Construction Schedule

With favorable weather conditions, construction of the Project is expected to take approximately 75 to 90 days to complete and would be constructed from April through July 2021.

2.3.9 Avoidance and Minimization Measures

The following avoidance and minimization measures (AMM) would be incorporated into YCWA's project activities to assist in mitigating the potential environmental effects during construction. **Table 1** summarizes the general AMMs.

Table 1. Summary of Avoidance and Minimization Measures

Number	Title	Summary
AMM 1	Timing of Work	Construction activities would not occur at night or on weekends.
AMM 2	Species protection	Construction personnel would undergo training and education on applicable environmental rules and regulations and measures necessary to avoid or minimize effects to sensitive resources.
AMM 3	Construction Best Management Practices (BMPs) and Monitoring	Standard practices and measures that would be implemented prior to, during, and after construction to avoid or minimize impacts to water quality and plant and animal species.
AMM 4	Fire Prevention Plan	The fire prevention plan includes measures to prevent wildland fires.
AMM 5	Construction site clean-up	Includes revegetation of all disturbed areas and removal of all construction equipment.

AMM 1: Timing of Work

AMM 1 consists of the following measures related to the timing of work.

- Access to the work sites is restricted to reduce the impact on local businesses and residences.
- Access to the work sites would occur during the working hours of 7:00 a.m. to 6:00 p.m. Monday through Friday inclusive, excluding legal holidays.
- Ground disturbing work would occur during dry periods.

AMM 2: Species Protection

AMM 2 consists of the following measures related to protecting plant and animal species.

- Personnel involved in construction would attend an environmental training session on sensitive species that may be encountered in the project area prior to initiation of the work.
- Preconstruction surveys would be conducted within potential habitat for listed species to designate exclusion zones.
- A biological monitor would be made available if necessary, to rescue and/or relocate state and federally listed species encountered during construction activities.

AMM 3: Construction Best Management Practices (BMPs)

AMM 3 consists of the following construction BMPs.

- All stockpiling of materials would occur away from all Waters of the United States.
- Fueling, lubrication, maintenance, storage, and staging of vehicles and equipment would be conducted in a manner that would prevent discharges to any Waters of the United States.
- Fuel transfer vehicles would have absorbent pads, pillows, socks, booms or other spill containment materials placed under the fueling operation.
- Staging, and both temporary and long-term material disposal areas would be located away from Waters of the United States.

- Fuel transfers would take place at least 100 ft from New Bullards Bar Reservoir.
- Personnel involved in the Proposed Project would be trained in emergency response and spill containment techniques.
- Petroleum products would be stored in non-leaking containers at impervious storage sites from which runoff is not permitted to escape.
- Materials and debris from all work areas would be removed following completion of the Proposed Project.
- A fugitive Dust Control Plan would be submitted to the Feather River Air Quality Management District (FRAQMD) prior to construction initiation.
- Fugitive dust would be minimized by watering or implementing other dust control measures, as necessary.
- Fugitive dust would also be minimized by minimizing areas cleared (i.e., storage areas, staging areas, stockpile areas and vehicle parking), limiting construction vehicle speeds to 15 miles per hour or less, covering haul vehicles, installing wheel washers or other similar methods where vehicles exit the construction sites onto paved roads.
- A permit would be obtained from the FRAQMD prior to operation of the generator.

AMM 4: Fire Prevention

AMM 4 consists of the following fire prevention measures.

- A fire plan would be developed to include preventative measures, emergency procedures to be followed, current emergency telephone numbers, and an area map.
- No fires would be allowed.

AMM 5: Construction Site Clean-up

AMM 5 consists of the following construction site clean-up measures.

- The contractor would remove all debris, rubbish, construction materials, weeds and other materials that cannot be salvaged and dispose of them at an approved disposal site.
- Exposed earthwork would be restored with seed, mulch, and/or rock as soon as construction is complete.
- The revegetation palette would not contain any plants listed on the California Invasive Plant Council's Invasive Plant Inventory, which can be accessed online at <http://www.cal-ipc.org/ip/inventory/weedlist.php>.

3 ENVIRONMENTAL CHECKLIST

Environmental Factors Potentially Affected

The environmental factors, if checked below, would be potentially affected by the Proposed Project and would involve at least one impact that is a “potentially significant impact” that cannot be reduced to a less than significant level as indicated by the checklist on the following pages.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Agricultural and Forestry Resources | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Mandatory Findings of Significance |

Evaluation of Environmental Impacts

The following Environmental Checklist form is based on the checklist suggested in Appendix G of the State CEQA Guidelines. The Environmental Checklist identifies potential project effects as corresponding to the following categories of impacts:

- **Potentially Significant Impact:** An effect that may be significant based on substantial evidence and the significance criteria. If the Proposed Project may result in one or more Potentially Significant Impacts, an Environmental Impact Report is required.
- **Less than Significant with Mitigation Incorporated:** An effect that, with the implementation of project-specific mitigation measures, is reduced from potentially significant to less than significant.
- **Less than Significant Impact:** An effect for which no significant impacts, only less than significant impacts, result.
- **No Impact:** An effect for which the Proposed Project does not create an impact.

3.1 Aesthetics

Except as provided in Public Resource Code Section 21099, would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Except as provided in Public Resource Code Section 21099, would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.1.1 Setting

The land in eastern Yuba County in the vicinity of the telecommunication and passive repeater sites, are located in the foothills of the Sierra Nevada. The area is visually characterized by the prominent feature of New Bullards Bar Dam and Reservoir, rolling foothills with flattened ridges, and deep valleys. The project area vegetation, more generally, is characterized by mixed conifer forest with live oak, black oak, and madrone trees. NBBD, Emerald Cove Marina, and boats moored in the marina, including houseboats exhibit strong visual contrast within the Proposed Project area due to light colors, uniform textures and shapes (FERC 2019).

The telecommunications site would be located approximately 500 ft northwest of the left abutment of NBBD in the north corner of the existing water treatment plant in a gravel area. The passive repeater site would be located approximately 0.75 miles southwest of the telecommunication site on a vegetated hillside overlooking the telecommunication site. The project sites are visible below from County Road 169 above the parking lot. Currently, the telecommunications site is not generally visible from the boat launch area, the surface of New Bullards Bar Reservoir, nor from Marysville Road that crosses over NBBD and is the public access to the boat launch area and County Road 169. However, the passive repeater site is visible from all of these locations.

The *Yuba County 2030 General Plan Community Development Element* (Yuba County 2011a) contains broad goals and policies to maintain or enhance the visual quality of the lands within the county. For rural areas such as the project site, Natural Resources Goal NR9, Policy NR9.3 states, “Development in rural communities should be designed to preserve important scenic resources, landmarks, and icons that positively contribute to the rural character.”

3.1.2 Discussion

- a) A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area and provides expansive views of a highly valued landscape for the benefit of the public. No component of the Proposed Project would occur

in an area defined as a scenic vista. Therefore, the Proposed Project would have **no impact** on a scenic vista.

- b) The Proposed Project is not located on, adjacent to, or visible from any state scenic highway and there are no known designated scenic resources in the project area. However, the General Plan emphasizes protecting views from other important highways, specifically, Marysville Road and State Highway 49. Due to the necessary height of the microwave tower and the height and location of the passive repeater, they would both increase the overall visibility of man-made developments from Marysville Road. However, compared to the numerous other man-made structures in the landscape, such as NBBB, these new structures would not substantially damage the existing scenic resources. Therefore, the Proposed Project would have a **less than significant** impact on scenic resources.
- c) The Proposed Project is located in a non-urbanized area. The following analysis considers the potential for the Proposed Project to degrade the existing visual character or quality of public views of the sites and their surroundings.

The construction activities for the Proposed Project involves minor vegetation removal, limited excavation, and use of a crane to construct the microwave tower. Following construction, there would be a temporary period when there would be exposed bare ground in the area where the passive repeater would be placed until such time that grasses and herbaceous shrubs grow and revegetate the area. These temporary changes to the area would not degrade the existing visual character or substantially alter public views of the site.

The visual character of the sites would change due to the installation of the 40' tall microwave tower and the installation of the 35' tall repeater tower with billboard type passive repeater. Construction of the microwave tower would occur within an already disturbed area (i.e., the gravel lot of the water treatment plan). Both the microwave tower and repeater tower with passive repeater would be designed with materials to match the color scheme of the nearby landscape. Due to the necessary height of the microwave tower, it would increase the overall visibility of man-made development at the water treatment plant. However, due to the color scheme and other man-made changes to the surrounding area (e.g. Emerald Cove Marina), the microwave tower is expected to generally blend into the landscape and not contrast with the existing landscape. The passive repeater would generally stand out more in the existing landscape than the microwave tower due to its location on a hillside in a vegetated area. However, because the repeater tower is not tall enough to require lighting the visual character of the site would be similar at nighttime as under existing conditions.

While the repeater tower with passive repeater is expected to contribute to the overall presence of man-made structures in the landscape, due to the adjacent topography and mature vegetation presence and other contrasts in the area the repeater would not be considered a prominent new structure in the landscape. Anthropogenic structures, like the proposed telecommunications equipment, are found throughout the Sierra Nevada. As such, the public using the area is generally accustomed to these types of features and

understand the purpose of such facilities. Thus, implementation of the Proposed Project would not substantially degrade the existing visual character or quality of the site and its surrounding. Consequently, the Proposed Project would have a **less than significant** impact on the existing visual character of the project site and its surroundings, and would not conflict with applicable zoning and other regulations governing scenic quality.

- d) The temporary construction activities over the course of approximately four months would occur during daylight hours, and construction would not result in substantial nighttime lighted activities.

Neither the microwave tower nor repeater tower would require lighting. Thus, there would be new source of substantial light.

The microwave tower would be constructed of materials that reduce potential glare impacts. As such, the microwave tower would not produce a substantial new source of glare. There would be some potential for glare from the new passive repeater. However, there would be no new lighting on the passive repeater itself. Although the Proposed Project would introduce small new sources glare relative to Existing Conditions, the area already includes a number of other developed components that include glare and lighting sources. Other sources of lights and glare include parking lot lights at Emerald Cove Marina, lighting from the houseboats that are permanently stationed near the marina, and street lights associated with Marysville Road as it crosses NBBD.

Although the new structures would introduce some new glare these would not be considered substantial sources of glare relative to that which already exists near the Proposed Project sites. Lighting would be similar as under existing conditions. As such, the Proposed Project would have a **less than significant** impact on day or nighttime views in the area.

3.2 Agriculture and Forestry Resources

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 511049g)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1 Setting

The telecommunications and passive repeater sites are located on YCWA-owned land and designated as “public” land in the Yuba County General Plan. None of the Proposed Project area that would be disturbed by construction is zoned or used for agriculture.

3.2.2 Discussion

- a) No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is located within the project area. The Proposed Project would have **no impact** on Farmland conversion to a non-agricultural use.
- b) None of the Proposed Project site is located in an area zoned for agriculture. As such, the project would not disturb any land used for agriculture or that is subject to Williamson Act contract and would not result in any changes that would conflict with the zoning. Therefore, the Proposed Project would have **no impact** on existing agricultural use zoning or a Williamson Act contract.
- c) No portion of the Proposed Project is located on land zoned for forest land or timberland. Further, no trees would be removed for the Proposed Project. Therefore, the Proposed Project would have **no impact** on existing zoning for forest land or timberland.
- d) As identified in response “c” above, no portion of the project area is located on forest land. As such, the Proposed Project would not result in any direct loss of forest land. Therefore, the Proposed Project would have **no impact** on forest land.
- e) As identified in response “b” above, the Proposed Project would not occur on land zoned for agriculture. As such, the Proposed Project would not result in any conversion of Farmland to a different use. Therefore, the Proposed Project would have **no impact** on the conversion of Farmland to non-agricultural use or of forest land to a non-forest use.

3.3 Air Quality

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.3.1 Setting

The Proposed Project site is located in Yuba County, which is within the Northern Sacramento Valley Planning Area of the Sacramento Valley Air Basin (Basin). Summers within the Basin are typically dry and warm. Most of the precipitation occurs during the winter months from December to March (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2015).

Air quality within the project area is regulated by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (CARB) at the federal and state levels, respectively, and locally by the Feather River Air Quality Management District (FRAQMD). As the local air quality management agency, the FRAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Basin is classified as being in “attainment” or “nonattainment.” The health effects associated with criteria pollutants upon which attainment of state and federal air quality standards is measured are described in **Table 2**.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. Of the many potential air pollutants, ozone, particulate matter (i.e., respirable [PM₁₀], and fine [PM_{2.5}]) are of primary concern within Yuba County. Yuba County is considered to be in “non-attainment” for ozone and PM₁₀, and to be either in “attainment” or unclassified for PM_{2.5}, nitrogen dioxide, sulfur dioxide, sulfate, lead, carbon monoxide (CO), hydrogen sulfide, and visibility reducing particles under the terms of the California Clean Air Act (CCAA) (CARB 2018). Under the terms of the National Ambient Air Quality Standards (NAAQS), Yuba County is categorized as in “attainment” for 8-hour ozone, PM₁₀, and PM_{2.5} (FRAQMD 2020a).

Criteria air pollutant concentrations are measured at several monitoring stations in the Basin. The Auburn 11645 Attwood Road Monitoring Station is located south of the project site and the Yuba

City Almond Street Monitoring Station (773 Almond Street) is southwest. Both monitoring stations are 30 miles from the project site. The Auburn station is located at a similar elevation as the project site and reports air quality data for ozone and PM_{2.5}. The Yuba City station reports PM₁₀. There are no monitoring stations in the proximity of the project site that record CO emissions. The ambient air quality measurements from the Auburn and Yuba City stations are therefore representative of the air quality near the project site. **Table 3** summarizes the air quality data for the three most recent calendar years for which data is available.

Table 2. Health Effects Associated with Criteria Pollutants

Pollutant	Adverse Effects
Ozone (O ₃)	(1) Short-term exposures: pulmonary function decrements and localized lung edema in humans and animals, risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) Aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO ₂)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO ₂)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM ₁₀)	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). ^a
Suspended particulate matter (PM _{2.5})	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma. ^a
^a More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: Office of Environmental Health Hazard Assessment, Particulate Matter Health Effects and Standard Recommendations, www.oehha.ca.gov/air/toxic_contaminants/PM10notice.html#may , May 9, 2002; and U.S. EPA, Air Quality Criteria for Particulate Matter, October 2004. Source: U.S. EPA 2018	

Table 3. Summary of Annual Data on Ambient Air Quality (2017–2019)¹

Air Contaminant	2017	2018	2019
Ozone			
Maximum concentration (1-hr/8-hr avg, ppm)	0.111/ 0.084	0.135/ 0.115	0.096/ 0.081
Number of days state standards exceeded (1-hr/8-hr) (>0.09 ppm/>0.070 ppm)	3/28	12/36	1/9
Number of days national standard exceeded (8-hr) (>0.070 ppm)	28	35	9
Fine Particulate Matter (PM_{2.5})			
Maximum concentration (24-hour µg/m ³)	29.7	91.1	21.1
Number of days national standard exceeded (24-hour measured ²) (>35 µg/m ³)	0	12	0
Respirable Particulate Matter (PM₁₀)			
Maximum concentration (24-hour µg/m ³)	145.5	339.6	81.9
Number of days state standard exceeded (>50 µg/m ³)	19	*	27
Number of days national standard exceeded (>150 µg/m ³)	0	8	0
Notes: 1 Measurements from the Auburn 11645 Atwood Road Monitoring Station for ozone and PM _{2.5} . Measurements of PM ₁₀ obtained from the Yuba City Almond Street Monitoring Station. Neither station reports CO emissions. µg/m ³ = micrograms per cubic meter ppm = parts per million NA = not available * = insufficient data to determine the value. Source: CARB 2020			

Regulatory Framework

As described above, air quality within the project site is regulated by agencies such as the U.S. EPA and CARB at the federal and state levels, respectively, and locally by the FRAQMD.

Federal

The U.S. EPA is responsible for enforcing the Federal Clean Air Act (FCAA). The U.S. EPA is also responsible for establishing the NAAQS, which are required under the 1977 FCAA and subsequent amendments. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The U.S. EPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by CARB.

The General Conformity regulation of the FCAA was established in 1993 to help states and tribes improve air quality in those areas that do not meet the NAAQS. The regulation contains *de minimis* thresholds, below which, a project would not be considered to substantially interfere with attainment of national standards associated with air quality planning efforts. The project area is in attainment for all federal standards, thus *de minimis* thresholds do not apply (FRAQMD 2020a).

State

In California, CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the state requirements of the FCAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Specific state requirements applicable to the construction activities under the Proposed Project include, but are not limited to (FRAQMD 2016):

- **California Vehicle Code section 23114** regarding transportation of material on roads and highways.
- **California Code of Regulations Title 13 Chapter 10 section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Limits idling time to 5 minutes for on-road heavy duty diesel trucks.
- **California Code of Regulations Title 13 Chapter 9 Article 4.8 section 2449: Regulation for In-Use Off-Road Diesel Vehicles.** Limits idling time to 5 minutes for off-road diesel vehicles.

Local

The FRAQMD is a bi-county district that was formed to administer local, state, and federal air quality management programs for Yuba and Sutter counties. The mission of the FRAQMD is to promote and improve the air quality of Sutter and Yuba counties. This is accomplished through monitoring, evaluation, education, by implementing control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles. The FRAQMD also responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the FCAA (including amendments) and CCAA.

As described above, Yuba County is considered to be in “non-attainment” for ozone and PM₁₀, and to be either in “attainment” or unclassified for PM_{2.5}, nitrogen dioxide, sulfur dioxide, sulfate, lead, CO, hydrogen sulfide, and visibility reducing particles under the terms of the CCAA (CARB 2019). Under the CCAA, areas not in compliance with the state standards must submit plans to reduce emissions and achieve attainment. In 2019, FRAQMD adopted the 2018 Triennial Air Quality Attainment Plan to reduce ozone in the region (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2015), which is an update to the previous 2015 plan.

The FRAQMD has also adopted an attainment plan to reduce emissions of PM₁₀ (FRAQMD 2020b).

All projects are subject to FRAQMD's rules and regulations in effect at the time of construction (FRAQMD 2016). Specific rules applicable to the construction activities under the Proposed Project include, but are not limited to:

- **Regulation IV: Stationary Emission Sources Permit System and Registration.** Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from FRAQMD prior to equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or internal combustion engine should contact the FRAQMD early to determine if a permit is required, and to begin the permit application process. Portable construction equipment (e.g. generators, compressors, pile drivers, lighting equipment, etc.) with an internal combustion engine over 50 horsepower are required to have a FRAQMD permit or an CARB portable equipment registration. Other general types of uses that require a permit include, but are not limited to fumigation chambers, gasoline tanks and dispensing, spray booths, and operations that generate airborne particulate emissions.
- **Rule 3.0: Visible Emissions.** A person shall not discharge into the atmosphere from any single source of emissions whatsoever, any air contaminants for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringleman Chart.
- **Rule 3.15: Architectural Coatings.** The developer or contractor is required to use coatings that comply with the volatile organic compound content limits specified in the rule.
- **Rule 3.16: Fugitive Dust.** The developer or contractor is required to control dust emissions from earth moving activities, storage or any other construction activity to prevent airborne dust from leaving the project site.

Furthermore, FRAQMD requires that all projects with a construction phase submit a completed Fugitive Dust Control Plan prior to beginning work (FRAQMD 2010).

FRAQMD Indirect Source Review Guidelines and Thresholds of Significance

The FRAQMD developed the Indirect Source Review Guidelines to serve as a resource to lead agencies to estimate project air pollutant emissions, identify a project's air quality significant effects, and select the best available mitigation measures designed to avoid or reduce the air quality environmental impacts of transportation and land-use activities (FRAQMD 2010). Based on FRAQMD's Indirect Source Review Guidelines, the Proposed Project is a "Type 1" project, which is a land use that would generate operational emissions. As such, FRAQMD recommends that both construction and operational emissions be quantified and measured against applicable thresholds. A Type 1 project is considered to have a less than significant impact if the daily construction and operational emissions do not exceed 25 pounds per day (lbs/day) of nitrogen oxide (NO_x) or reactive organic gases (ROG), and the daily emissions of 80 lbs/day of PM₁₀, as shown in **Table 4**. NO_x and ROG construction emissions may be averaged over the life of the project but may not exceed 4.5 tons/year. FRAQMD also recommends evaluation of construction diesel particulate

matter (exhaust PM₁₀) when construction activities are located within 1,000 ft of a sensitive receptor, which would include school sites and residential land uses. Note that there are no sensitive receptors within 1,000 ft of the project site.

Table 4. FRAQMD Air Quality Significance Thresholds for Construction

Pollutant	Construction Threshold	Operational Threshold
Nitrogen Oxide (NO _x)	25 lbs./day multiplied by project length, not to exceed 4.5 tons/year ¹	25 lbs./day
Reactive Organic Gasses (ROG)	25 lbs./day multiplied by project length, not to exceed 4.5 tons/year ¹	25 lbs./day
PM ₁₀	80 lbs./day	80 lbs./day
PM _{2.5}	Not Yet Established	Not Yet Established
¹ NO _x and ROG construction emissions may be averaged over the life of the project, but may not exceed 4.5 tons/year Source: FRAQMD 2010		

Methodology

Construction emissions associated with development of the Proposed Project were calculated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod uses project-specific information, including construction phases, schedule, and proposed equipment to estimate a project's construction emissions. Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as hauling, worker, and vendor trips. Construction would include mobilization, clearing and grubbing, construction of the telecommunication and passive receptor structures, retrofitting of the electrical infrastructures, and demobilization phases. For phases where specific equipment was not provided, the CalEEMod default equipment assumptions were used instead.

Assumptions were made regarding average worker commute trips by construction phase, average haul truck capacity (16 cubic yards), and worker, vendor, and haul trip lengths. For worker and haul trips it was assumed that the trip lengths one-way would be approximately 40 miles since that is the distance between Yuba City and the Proposed Project. The number of workers per phase was estimated as the equipment count per phase plus a foreman and laborer. For example, the mobilization phase required two pieces of equipment, therefore, it was assumed that four workers would be on-site (two equipment operators plus a foreman and laborer). The following details the haul trip assumptions by phase:

- Construction of the Telecommunication, Passive Receptor Structures, and Associated Infrastructure:** The Proposed Project would excavate 75 cubic yards of native material. Approximately 55 cubic yards of aggregate base would be compacted in place after the installation of the new telecommunication yard and approximately 20 cubic yards of concrete would be used for the remaining fill. These actions would require approximately 19 haul trips (i.e., round trip).

For this analysis, all construction phases were assumed to occur consecutively and not overlap. Based on this assumption, construction would extend over five months from April 2021 to August 2021. This is a conservative approach since the modeled schedule is one month longer than the proposed April through July 2021 schedule. Project operation is assumed to commence in 2021 immediately after project completion. However, the operational period was defined as 2022 in the CalEEMod to account for a typical calendar year where operations would occur for a 12-month period. Vegetation maintenance would occur using handheld tools and would not result in any emissions. Thus, the vegetation maintenance phase of the Proposed Project is not discussed further.

Construction activities would result in temporary air quality impacts that may vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. CalEEMod assumptions and results are shown in **Appendix B**. In addition, as detailed in Section 2.3.9, Avoidance and Minimization Measures, modeling assumed the Proposed Project would comply with Construction BMPs, including implementing dust control measures and limiting construction vehicle speeds to 15 miles per hour. These measures align with the FRAQMD's standard condition of approval for construction (FRAQMD 2010, 2016). In accordance with FRAQMD's guidance, NO_x and ROG emissions from construction of the project were averaged over a 10-year period (the assumed life of the project) and compared to significance thresholds.

Emissions associated with operational activities were also modeled with CalEEMod. Operational emissions include energy sources and stationary sources. The Proposed Project would utilize an 80-kilowatt (kW) backup emergency generator that would be powered with propane. The project would not use natural gas. There would be no operational emissions from area sources, water and wastewater sources, or mobile sources. The Proposed Project would not need landscaping maintenance nor would it re-apply architectural coating (i.e., re-painting). There would be no indoor or outdoor infrastructure requiring water (e.g., bathrooms). Once operational, the Proposed Project would be unstaffed and would not generate new daily mobile trips; thus, the project would not generate mobile emissions. Staff from YCWA would oversee operations at the Proposed Project and an operator would visit once a month to test and maintain the backup generator.

The Proposed Project would install an 80 kW back up emergency generator that would be powered by a propane engine. Based on PG&E's 2019 Public Safety Power Shutoffs hours, the generator is expected to operate approximately 240 hours annually for emergency services. Per FRAQMD Rule 3.22, it was also assumed that the generator would be operational for up to 100 hours annually for maintenance and testing purposes (FRAQMD 2020c). Therefore, the backup generator was modeled as operating 340 hours per year.

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks to individuals. Residential dwellings and places where people recreate or congregate for extended periods of time such as parks or schools are of primary concern because of the potential for increased and prolonged exposure of individuals to pollutants. Sensitive receptors closest to potential construction activities include houseboats in the Emerald Cove Marina approximately 2,000 ft east of the telecommunication site. Houseboats and liveaboards in the Emerald Cove Marina are also the nearest receivers to the passive repeater site

and are approximately 3,000 ft north of the site. The nearest residential community is Dobbins which is approximately four miles west of the project site on Marysville Road.

3.3.2 Discussion

- a) The Proposed Project consists of temporary construction activity and operational activity. During operation, the Proposed Project would be overseen and maintained by employees from YCWA. The Proposed Project would not result in increases in population or employment. Thus, the Proposed Project would be consistent with the population projections in the local air quality plan. There would be **no impact** as the Proposed Project would not conflict with or obstruct implementation of an air quality plan.
- b) As previously mentioned, the Proposed Project would result in construction and operation related emissions. Construction-related emissions would be temporary in duration occurring for approximately five months but have the potential to represent a significant impact with respect to air quality. Project-related construction activities would generate temporary air pollutant emissions and fugitive dust emissions from construction equipment. Construction emissions would also occur from motor vehicles transporting construction workers, equipment, materials, and construction debris to and from the project site. Operation-related emissions would be primarily from the energy used by the Proposed Project and 80 kW backup generator.

Table 5 summarizes the estimated maximum daily construction emissions and the annual, amortized ROG and NO_x emissions from development of the Proposed Project, while **Table 6** summarizes the maximum daily operational emissions. The significance of the Proposed Project air quality impacts was determined by comparing these modeled results against the FRAQMD significance thresholds (see Table 4 above).

As shown in Table 5 and Table 6, daily and annual emissions would not exceed the FRAQMD thresholds of significance for construction or operational emissions. Therefore, the Proposed Project would have a **less than significant impact** on attainment of air quality standards in the Basin.

Past, present, and future development projects contribute to a region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. Generally, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The Yuba County portion of the Basin is currently designated as a non-attainment area relative to the CAAQS for ozone and PM₁₀; the county is in attainment relative to the NAAQS. Furthermore, in developing thresholds of significance for air pollutants, FRAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds detailed in Table 4 above, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions both at a project and cumulative level. The Proposed Project's construction-generated and operational emissions would not exceed FRAQMD thresholds. Therefore, the Proposed Project would not result in a *cumulatively* considerable

net increase of any criteria pollutant for which the project region is in non-attainment under the CAAQS or NAAQS, and impacts would be **less than significant**.

Table 5. Summary of Modeled Emissions of Criteria Air Pollutants and Precursors Associated with Project Construction Activities

	ROG ¹	NO _x ¹	PM _{2.5}	PM ₁₀
Daily Emissions (lbs/day) ²	1	8	<1	1
FRAQMD Threshold (lbs/day)	25	25	--	80
Threshold Exceeded?	No	No	--	No
Annual Emissions (tons/year) ³	<1	<1		
FRAQMD Threshold (tons/year)	4.5	4.5	--	--
Threshold Exceeded?	No	No	--	--
¹ NO _x and ROG construction emissions may be averaged over the life of the project but may not exceed 4.5 tons/year. ² ROG, NO _x , PM _{2.5} and PM ₁₀ emissions are reported as maximum daily emissions. ³ NO _x and ROG emissions annual emissions, estimated by amortizing NO _x and ROG emissions from construction of the project over a 10-year period (the assumed life of the project). NO _x = nitrogen oxide ROG = reactive organic gases PM _{2.5} = fine particulate matter PM ₁₀ = particulate matter (i.e., respirable) lbs/day = pounds per day FRAQMD = Feather River Air Quality Management District See Appendix B for detail on model inputs, assumptions, and project specific modeling parameters.				

Table 6. Summary of Modeled Emissions of Criteria Air Pollutants and Precursors Associated with Project Operational Activities

	ROG	NO _x	PM _{2.5}	PM ₁₀
Daily Emissions (lbs/day) ¹	<1	<1	0	0
FRAQMD Threshold (lbs/day)	25	25	--	80
Threshold Exceeded?	No	No	--	No
¹ ROG, NO _x , PM _{2.5} and PM ₁₀ emissions are reported as maximum daily emissions. NO _x = nitrogen oxide ROG = reactive organic gases PM _{2.5} = fine particulate matter PM ₁₀ = particulate matter (i.e., respirable) lbs/day = pounds per day FRAQMD = Feather River Air Quality Management District See Appendix B for detail on model inputs, assumptions, and project specific modeling parameters.				

- c) The potential for the Proposed Project to result in the exposure of sensitive receptors to substantial pollutant concentrations was evaluated for construction-related and operation-related activities. The FRAQMD guidance for CEQA assessments for construction projects states that the proximity of sensitive receptors to a construction site constitutes a special consideration and may require an evaluation of toxic diesel particulate matter (FRAQMD 2010).

CARB's (2005) Air Quality and Land Use Handbook: A Community Health Perspective provides recommendations for siting certain land uses near land uses that emit toxic air contaminants, like freeways and distribution centers that attract heavy duty trucks. These recommendations are intended to reduce the risk of potential health effects associated with diesel exhaust emitted from trucks. Diesel exhaust contains diesel particulate matter (DPM), a toxic air contaminant (TAC) associated with temporary health effects, such as eye-watering, exacerbation of asthma, respiratory irritation, and more serious long-term effects, such as cancer and lung disease (CARB 2005). If a project is located within 1,000 ft of a sensitive receptor location, then the impact of DPM should be addressed in the CEQA assessment.

However, there are no sensitive receptors within 1,000 ft of the Proposed Project as described in the Methodology Section. The nearest sensitive receptors would be residents of the houseboats in the Emerald Cove Marina, which are over 2,000 feet away from the Proposed Project. While hauling trucks would emit diesel exhaust, only a minor portion of mobile DPM emissions would be generated within 1,000 ft of the sensitive receptors at Emerald Cove Marina. As noted under "b" above, daily total PM₁₀ emissions fall well below FRAQMD's threshold. Therefore, there would be no impact from construction related TAC emissions since no sensitive receptors are within 1,000 ft of the Proposed Project.

FRAQMD has not established a quantitative threshold of significance for construction-related TAC emissions but recommends taking into consideration specific construction-related characteristics of the project, which are described above.

The project's operation activities would also not expose sensitive receptors to substantial TAC emissions since the project would not generate new daily trips and the proposed 80 kW backup generator is fueled by a propane engine not a diesel engine. The stationary source would not emit DPM emissions. As a result, the Proposed Project would not conflict with FRAQMD guidance for risks and hazards to receptors associated with new emissions sources. Thus, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations during construction or operation. Impacts would be **less than significant**.

- d) The Proposed Project does not involve the construction of new structures or other facilities that would generate odors. Therefore, the Proposed Project would have **no impact** on the creation of objectionable odors.

3.4 Biological Resources

Would the Proposed Project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Setting

The Proposed Project includes construction, permanent placement of the telecommunications site and repeater tower with passive repeater, and annual maintenance to keep vegetation from blocking the passive repeater.

Methods

Special status species are defined as species that are legally protected or that are otherwise considered sensitive by federal, state, or local resource agencies. Special status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed by California or the federal government as endangered, threatened, or rare;

- a candidate for state or federal listing as endangered, threatened, or rare;
- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in California Code of Regulations Section 15380 of the State CEQA Guidelines;
- species identified by California Department of Fish and Wildlife (CDFW) as Species of Special Concern;
- species listed as Fully Protected under the California Fish and Game Code;
- species afforded protection under local planning documents;
- plant taxa considered by the CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR). The CDFW system includes five rarity and endangerment ranks for categorizing plant species of concern; and
- bird species protected under the Migratory Bird Treaty Act.

All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW’s California Natural Diversity Database (CNDDDB), regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, and 2 may qualify as endangered, rare, or threatened species within the definition of the CEQA Guidelines, California Code of Regulations Section 15380. CDFW recommends, and local governments may require, that CRPR 1A, 1B, and 2 species be addressed in CEQA documents.

The term “California Species of Special Concern” is applied by CDFW to animals not listed under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA), but that are considered to be declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist.

Special status species considered for this analysis are based on a review of existing documentation, including the CNDDDB (2021), the Yuba County 2030 General Plan (Yuba County 2011a), the Yuba County General Plan 2030 Final Environmental Impact Report (Yuba County 2011b), and other recent documents pertaining to biological resources in the region.

The following criteria have been used to determine the potential for special status plants and wildlife species to occur within the Proposed Project area based on species life history characteristics, life history requirements, past observation and professional expertise.

- **High:** Species is known to occur on or near the project site (based on CNDDDB records within five miles and/or based on professional expertise specific to the project site or species), and there is suitable habitat within the project site.
- **Low:** Species is known to occur in the vicinity of the project site, and there is marginal habitat within the project site, or species is not known to occur in the vicinity of the site, but there is suitable habitat on the site.
- **None:** Species is not known to occur on or in the vicinity of the project site and there is no suitable habitat within the project site, or species was surveyed for during the appropriate

season with negative results, or species is not known in Yuba County. Species with no potential to occur are not discussed further in this analysis.

Existing Conditions for Plants and Wildlife

The Proposed Project area contains several habitat types that potentially may be affected by the Proposed Project. The vegetative communities at the passive repeater site consist primarily of mixed oak/conifer forests and ruderal/developed areas. The telecommunications site is in the already existing water treatment yard and is classified as developed. These habitat types are described below, with a discussion of common plant species that are found in each of the habitat types.

- **Mixed Oak/Conifer Forest:** The mixed oak /conifer forest consist of Jeffrey pine (*Pinus jeffreyi*), interior live oak (*Quercus wislizeni*), black oak (*Quercus kelloggii*), toyon (*Heteromeles arbutifolia*), and madrone (*Arbutus menziesii*).
- **Ruderal/Developed:** Ruderal/developed habitats contain common weedy species such as European annual grasses and forbs and blackberry.

Special Status Plants and Terrestrial Wildlife

This section provides an overview of the distribution of special status plant species and wildlife that may occur at the Proposed Project site and that are endemic to California. For wildlife this includes species that are listed as threatened or endangered species under the ESA or CESA, or identified as a federal Species of Concern or California Species of Special Concern. Special status plant and wildlife species that includes the common and scientific names for each species, regulatory status, habitat descriptions, and potential for occurrence on the project site are listed in **Table 7**. No special status invertebrates, reptiles, or amphibians would be impacted by the Proposed Project. As such, species in these categories are not discussed further.

Table 7. Special Status Plant and Terrestrial Wildlife Species with the Potential to Occur on the Project Sites

Species	Status ¹	Habitat	Potential for Occurrence
	FESA, CESA, CRPR		
Plants			
Brandegee's clarkia <i>Clarkia biloba</i> ssp. brandegeae	—, —, 4.2	Chaparral, Cismontane woodland, and lower montane coniferous forest with serpentinite or volcanic soil substrates at elevations ranging from 985–3,280 feet. Blooms May–June.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Butte County fritillary <i>Fritillaria eastwoodiae</i>	—, —, 3.2	Chaparral, cismontane woodland, and lower montane coniferous forest sometimes with serpentinite substrates. Blooms March–June.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Elongate copper moss <i>Mielichhoferia elongata</i>	—, —, 4.3	Metamorphic rock, usually acidic, usually vernally mesic, often roadsides, sometimes carbonate. Typically occurs in chaparral, Cismontane woodland, lower montane coniferous forest, meadows and seeps. Is present year round.	High; suitable habitat exists for the species and it has been documented in the project vicinity.

Species	Status ¹	Habitat	Potential for Occurrence
	FESA, CESA, CRPR		
Minute pocket moss <i>Fissidens pauperculus</i>	—, —, 1B.2	Most common in north coast coniferous forests in damp coastal soils. Has also been documented in Sierra Nevada foothills. Is present year round.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Pine Hill flannelbush <i>Fremontodendron decumbens</i>	—, —, 1B.2	Chaparral, Cismontane woodland, with gabbroic or serpentinite/rocky substrate. Blooms April–June.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Sierra arching sedge <i>Carex cyrtostachya</i>	—, —, 1B.2	Lower montane coniferous forest, meadows and sweeps, marshes and swamps, and riparian forest.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Wildlife			
Birds			
Bald eagle <i>Haliaeetus leucocephalus</i>	—, CE, —	Found at most lakes, reservoirs, rivers and some rangelands. A small number of breeding pairs are found in the central Sierra Nevada foothills. Bald Eagles typically nest within 1 miles of water bodies in trees over 100 feet in height.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
American Peregrine Falcon <i>Falco peregrinus</i>	—, FP, —	Breed in most terrestrial biomes in the Americas, with no preference for one specific biome. Nesting habitats contain cliffs, large trees, and/or ground nests with open airspace.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Mammals			
Fisher - West Coast DPS <i>Pekania pennanti</i>	FC, CT, —	Coniferous and mixed forests in mountainous areas.	None; although suitable habitat exists for the species and it has been documented in the immediate project vicinity, there have been no documentation of the species at the project site since 1987 or outside of the southern Sierra Nevada since 1995.
<p>CRPR = California Rare Plant Rank; CNDDDB = California Natural Diversity Database; CESA = California Endangered Species Act; FESA = Federal Endangered Species Act</p> <p>¹ Legal Status Definitions:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Federal Endangered Species Act:</p> <p>FC Candidate (no formal protection under the ESA).</p> <p>California Endangered Species Act:</p> <p>CE Endangered (legally protected)</p> <p>CT Threatened (legally protected)</p> <p>FP California Department of Fish and Wildlife Fully Protected</p> </div> <div style="width: 45%;"> <p>California Rare Plant Ranks:</p> <p>1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)</p> <p>3 Plants about which more information is needed, A review list</p> <p>4 Plants of limited distribution, A watch list</p> <p>Threat ranks:</p> <p>.1-Seriously threatened in California (greater than 80% of occurrences threatened / high degree and immediacy of threat)</p> <p>.2-Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)</p> <p>.3-Not very threatened in California (fewer than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)</p> </div> </div> <p>Source: CNDDDB 2021</p>			

Special Status Plants

No special status plants have been documented in the immediate vicinity or within one mile of the project site. The only special-status plant that has been documented within two miles of the project site is Butte County fritillary. According to CNDDDB (2021), all other special status plant species occurrences have been located two miles or more from the Proposed Project sites.

Bald Eagle

The southern bald eagle (*H. leucocephalus leucocephalus*) was listed as endangered under the Endangered Species Act of 1966 (32 FR 4001). On February 14, 1978 the United States Fish and Wildlife Service (USFWS) ruled to delete the subspecies subspecific names for the southern and northern subspecies, resulting in the designation of a single species (*H. leucocephalus*; 43 FR 6230). This ruling also listed bald eagles endangered in 43 of the 48 contiguous states, including in California, and threatened in the remaining five states. On July 12, 1995 all bald eagles listed as endangered were reclassified as threatened, while the status of threatened remained in effect for the five other states (60 FR 36000). On August 8, 2007 the USFWS ruled to delist the bald eagle in all states (72 FR 37346).

In California the bald eagle was listed under CESA as endangered on June 27, 1971. Additional protections for bald eagles in California exist under Fish and Game Code Sections 3503, 3503.5, and 3513, which make it unlawful to take, possess, or needlessly destroy birds' nests or eggs; take possess, or destroy raptors and their eggs and nests; and take or possess any migratory nongame bird or part thereof, designated in the Migratory Bird Threat Act of 1918 (16 U.S.C. 703- 712; Ch. 128; July 13, 1918; 40 Stat 755) as amended). Since federal delisting, protection of bald eagle has continued under the Migratory Bird Threat Act, and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) as amended.

The bald eagle is a large raptor that typically nests within one mile of water bodies. Bald eagles choose hunting perches near shallow waters of deep lakes and reservoirs where fish concentrate and are more visible (YCWA 2014a). Prior to the onset of winter, bald eagles migrate from colder northern climates to warmer southern climates. In winter bald eagles spend nights in a roost. Paired adults roost in their nesting stand (Jackman et al. 1999, Jackman and Jenkins 2004, Merced Irrigation District 2010), whereas non-paired birds roost communally.

Nests are large structures that are typically found in the upper third of live dominant or co-dominant trees with some canopy above. Most nests are 100 ft or higher from the ground. A single pair of bald eagles use the same nest each year and may have alternate nests within their breeding territory. Bald eagles can breed as early as four to five years of age, but in healthy populations may not breed until much older (USFWS 2007 as cited in YCWA 2014a). In the Sierra Nevada foothills, breeding typically begins between January and mid-March and ends when young fledge in June or July (Jackman and Jenkins 2004).

In 2011 and 2012 YCWA conducted wintering surveys for bald eagles within a one mile radius around the New Bullards Bar Reservoir (YCWA 2014a). The study also included a review and summary of historical surveys by the U.S. Forest Service for bald eagles in the vicinity of New Bullards Bar Reservoir. Historical records from the Tahoe National Forest indicated more than 640 bald eagle occurrences had been documented around New Bullards Bar Reservoir through

2009 (TNF 2009a as cited in YCWA 2014a). During the wintering surveys YCWA recorded 15 observation of adult bald eagles and six observations of sub-adult bald eagles (YCWA 2014a). Eight hunting perches were also located around New Bullards Bar Reservoir (YCWA 2014a).

Two bald eagles nests were known to exist on New Bullards Bar Reservoir prior to the 2012 nesting surveys (YCWA 2014a). The Garden Point Peninsula nest, located approximately four miles from and across the reservoir from the project site, was active during the 2012 nesting survey (YCWA 2014a). The other nest, located approximately three miles north of the project site, was not active during the 2012 survey (YCWA 2014a). By 2013 the unoccupied nest was classified a failure and only a remnant remained (YCWA 2014a). Thus, the 2012 nesting survey identified one active nest at New Bullards Bar Reservoir in 2012, located on Garden Point Peninsula.

American Peregrine Falcon

The American peregrine falcon was added to the U.S. Department of Interior's list of foreign endangered species on October 13, 1970. Listing was primarily due to the population decline linked to DDT. In 1972 DDT was banned from use in the United States and was followed by the restrictions of other pesticides including aldrin and dieldrin. Banning of these chemicals caused the reproductive rates of American peregrine falcons to increase. Increased populations of American peregrine falcons caused the bird to be delisted on August 25, 1999.

In California, the American peregrine falcon was listed under CESA as endangered on June 27, 1971. California also assigned the status of Fully Protected Bird Species (F.G.C. § 3511) to the American peregrine falcon. As of November 4, 2009, the American peregrine falcon was considered "Recovered" and subsequently removed from the list. However, the status of Fully Protected Bird Species remains today. The birds are also designated under the Migratory Bird Treaty Act (MBTA) as described below.

The American peregrine falcon is a medium-sized raptor that breeds in many terrestrial biomes in the Americas (White et al. 2002). American peregrine falcon use a number of habitat types during fall and spring migration including urban, suburban, and rural habitats. American peregrine falcons typically breed at 2 to 3 years of age. Incubation may begin as early as March and takes about 29 to 32 days, followed by a nesting period of 35 to 42 days (YCWA 2019). Post fledge American peregrine falcons are sensitive to disturbances for about two weeks.

YCWA observed an adult American peregrine falcon flying over the Cottage Creek Boat Launch/Emerald Cove Marina upper parking lot in May 2016 (HDR 2016 as cited in YCWA 2019). CDFW reported an American Peregrine Falcon nest may be near or just downstream of NBBD and there may be others in the water shed (YCWA 2019).

Pacific Fisher - West Coast DPS

Pacific fishers are listed as Federal Candidate species and California Species of Concern. Two remnant populations of Pacific fisher occur in California. One population occurs in the southern Sierra Nevada in the vicinity of Sequoia and Kings Canyon National Park. Here, the species prefer mature forested areas at elevations between 1,970 and 8,530 ft. Another population exists in the north Coast Ranges of California near the Oregon border. Populations have declined primarily due to loss of habitat from timber harvest activities and trapping. Other potential threats include, large

wildfire, changes in forest composition structure due to climate change, and rural and urban development. Collisions with vehicles, predation, rodenticides and viral borne diseases have also contributed to Pacific fisher mortalities (77 FR 70010).

A detailed description of Pacific fisher's presence in the vicinity of New Bullards Bar Reservoir was conducted by YCWA for the Federal Energy Regulatory Commission (FERC) Project 2246. The discussion below summarizes the findings in the YCWA FERC document (YCWA 2014b) and also includes a review of Pacific fisher occurrences in CNDDDB. One occurrence of Pacific fisher was reported at New Bullards Bar Reservoir and NBBD in 1987 (CNDDDB 2021). This reported occurrence was obtained from CNDDDB and was shown as a non-specific point with a radius that included the project site. In order to protect Pacific fisher, the California Fish and Wildlife displays the location of this occurrence using a non-point specific 0.8-mi polygon that encompasses the exact location of this occurrence.

Since 1987, no additional occurrences have been reported at New Bullards Bar Reservoir and since 1995 no Pacific fisher has been reported in the Sierra Nevada outside of the southern Sierra Nevada population. Despite the 1987 and 1995 reports, a lack of detections outside of the two populations in California suggests the Pacific fisher has been extirpated or reduced to scattered individuals in the central and northern Sierra Nevada (77 FR 70010). According to a recent status review of Pacific fisher in California, there is little empirical evidence of Pacific fisher previously inhabiting the 270 mi gap between the northern and southern populations (YCWA 2014b). Preliminary genetic comparisons of the two California populations suggest that Pacific fishers did not continuously inhabit the 270 mi gap and likely have been separated for more than 1,000 years (California Department of Fish and Game 2010b as cited in YCWA 2014b).

Due to lack of known occurrences and the project's isolation from the two known Pacific fisher populations, the Proposed Project would have no effect on Pacific fisher. As such, the species is not discussed further.

Other Wildlife

Common mammal species in the vicinity of the project site include Columbian black-tailed deer (*Odocoileus hemionus columbianus*), black bear (*Ursus americanus*), and squirrels, such as western grey squirrel (*Sciurus griseus*). Common bird species expected to occur in the vicinity of the project site, many of which are protected under the Migratory Bird Treaty Act, include raptors, such as red-tailed hawk (*Buteo jamaicensis*) and Cooper's hawk (*Accipiter cooperii*); songbirds, including dark-eyed junco (*Junco hyemalis*) and spotted towhee (*Pipilo maculatus*); woodpeckers, such as white-headed woodpecker (*Picoides albolarvatus*) and northern flicker (*Colaptes auratus*); and owls, including great horned owl (*Bubo virginianus*) and western screech owl (*Otus kennicottii*; YCWA 2014b).

Migratory Bird Treaty Act

The MBTA of 1918 makes it unlawful to take (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. The act protects more than 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species, and it was originally drafted to put an end to the commercial trade in birds and their feathers that, by

the early years of the 20th century, had wreaked havoc on the populations of many native bird species.

Aquatic Biological Resources

Potential impacts on the New Bullards Bar Reservoir water quality for constituents that could be affected by the Proposed Project, and the impacts of potential water quality changes on beneficial uses, including aquatic biological resources, are addressed in Section 3.10, “Hydrology and Water Quality.” Hence, the reader is referred to Section 3.10 for assessments of water quality–related impacts on aquatic biological uses. There would be no other potential temporary or permanent impacts to aquatic biological resources so there is no further discussion on aquatic biological resources in this section.

3.4.2 Discussion

The potential for project-related affects to biological resources is assessed below in responses to the Initial Study checklist questions. The assessment of effects primarily considers the likely presence of biological resources and their habitats in the project area, the magnitude and duration of direct and indirect effects to the species and their habitats, and the availability of feasible mitigation measures to avoid or minimize the effects.

- a) The following discussion assesses potential impacts of the Proposed Project, both directly and through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW (formerly California Department of Fish and Game), USFWS or MBTA, occurring within the affected environment.

All special status species with the potential to occur in the project site are listed in Table 7 above. Special status species with the potential to occur in the Proposed Project sites and that have the potential to be substantially adversely affected, either directly or through habitat modifications, include species listed under CESA, are considered state species of special concern, or are assigned a CRPR. No federally threatened or endangered species have the potential to occur in the project vicinity. No additional special status species with the potential to be substantially adversely affected are listed in any local or regional plans, policies, or regulations as candidate or sensitive.

Special-Status Plants

Six special status plants could occur on or adjacent to the Proposed Project site. Potential affects to these species are discussed below.

Effects to Special Status Plants

Effects to special status plant species include;

- Construction-related vegetation removal in advance of constructing the passive repeater; and,

- Annual vegetation maintenance to ensure the sight lines to and from the passive repeater does not get blocked.

There would be no impacts to special status plants from project operations. No special status plant species have been documented at the project sites. However, Butte County fritillary has been documented at several sites within one to two miles of the project site. Because implementation of the Proposed Project would require vegetation removal, it is possible that special status plants could be impacted.

AMMs incorporated into the project include a WEAP training to educate workers about the potential impacts to special status plants. Additionally, implementation of **Mitigation Measure BIO-1** would reduce impacts to special status plants to a **less than significant** level.

Mitigation Measure BIO-1: Special Status Plants

YCWA would conduct special status plant surveys using approved CDFW/USFWS methods during the appropriate season for identification of special status plant species prior to construction and each maintenance period. If special status plant species are found in the construction areas, YCWA would enter such species into the CNDDDB database. Where feasible, individual special status plants should be fenced for avoidance during construction. Where avoidance is not possible, losses shall be offset through inclusion of these species into the restoration planting palette.

Special Status Wildlife

The only special status wildlife species that may occur in the project vicinity are the bald eagle and American peregrine falcon. Although it is possible for bald eagles and their fledglings to be present during the construction period the nearest documented nest to the Proposed Project is area is approximately four miles away. Given that there would be no tree removal as part of constructing the Proposed Project there would be no potential to directly impact bald eagle nests or their perching, roosting, or nesting habitat. American peregrine falcons could also nest in the Proposed Project vicinity during construction. However, habitat disturbance would not occur on or near cliffs, their typical nesting location. As such, the Proposed Project is also not expected to affect American peregrine falcon perching, roosting, or nesting. However, indirect effects from construction activities, such as construction equipment noise, vibration, and human presence could temporarily disturb bald eagles, American peregrine falcons, or migratory birds that may be present in the Proposed Project area. Such potential disturbances could cause the birds to temporarily move away from the area.

Once constructed, the 40 ft microwave tower and 35 ft repeater tower have the potential to attract birds for nesting. Bald eagles are not likely to use the towers for a nesting site since bald eagles typically build nests that are about 50 to 125 ft high located in mature trees (Packham 2005, AEF 2021). However, it is possible that peregrine falcons could use the towers as nesting sites. Peregrine falcons build nests in a range of locations including tall buildings in urban environments and other anthropogenic structures, including telecommunications towers. Although peregrine falcons would be more likely to build

nests along cliffs in the area or other natural features, if a peregrine falcon built a nest in either tower it would not be expected to negatively impact adults or their offspring.

Telecommunication towers are also known for causing bird mortality as a result of birds flying into the structures, especially nocturnal migratory birds. Avian mortality occurs most frequently when nocturnal migratory birds are attracted to steady-burning lights, enter the zone of influence, and then collide with the towers (Longcore et al. 2013). Mortality decreases exponentially with lower tower heights and further decreases when the tower is equipped with flashing aviation lights instead of steady burning lights (Longcore et al. 2012).

Longcore et al (2012) evaluated bird mortality at 70,414 towers in the United States and Canada by correlating bird deaths to different tower heights and types of light on the towers. The study found that the shortest towers evaluated (i.e., those between 197 to 295 ft tall) caused less than 6% of tower related bird mortalities. Similarly, USFWS concluded that towers taller than 350 ft are those most likely to cause avian mortality (USFWS 2021). The proposed 40 ft microwave tower and 35 ft repeater tower would be substantially shorter than those studied by Longcore et al. (2012) and addressed by USFWS (2021). Further, the microwave tower would be constructed immediately in front of a 70 ft steep hillside, which would allow plenty of airspace for migratory birds to fly above the tower. Similarly, there is a hillside directly behind the location where the repeater tower would be erected. Thus, sufficient airspace would be available for migratory birds to fly above the repeater tower. Based on the locations chosen for the two towers, the potential for nocturnal migratory birds to fly into the towers would be extremely low.

Neither the repeater tower nor microwave tower would have lighting. Towers that have no lighting have been shown to have significantly fewer bird mortalities than lighted towers (Longcore et al. 2012). Birds would not be attracted to the repeater tower and passive repeater at night since no lighting would be present. Neither tower would have guidewires and no electrical lines would be present at the passive repeater site. All electrical lines at the microwave tower would be underground. Thus, there would be no potential for bird collision with electrical lines or electrocution at either site. Based on the above considerations, there is no evidence that presence of the towers would cause collision mortality to increase for bald eagles, peregrine falcons, or other migratory birds (Longcore et al. 2013).

Minimal maintenance would be required for the Proposed Project to operate successfully. Some minor vegetation removal would be required at the passive repeater site, but this maintenance would occur by hand and not generate substantial noise or other disturbances to special status wildlife. The telecommunications site is in an area that is already developed. As such, maintenance activities at this location would not cause additional human presence or disturbance relative to those that occur under existing conditions.

AMMs incorporated into the Proposed Project include a WEAP training to educate workers about special status species, surveys for special status species, and a biological monitor if special status species are encountered during construction activities. Combined with these

AMMs, **Mitigation Measure BIO-2** would reduce impacts to bald eagles, American peregrine falcons, and migratory birds to **less than significant**.

Mitigation Measure BIO-2: Avoid Impacts to Bald Eagles, American Peregrine Falcons, and Other Migratory Birds

- A qualified biologist shall conduct pre-construction surveys for bald eagles, American peregrine falcons, and other migratory bird species no more than 14 days prior to construction in accordance with the *Bald Eagle Breeding Survey Instructions* (CDFG 2010), *Protocols for Observing Known and Potential Peregrine Falcon Eyries in the Pacific Northwest* (Pagel 1992), and methods described in the *Bald Eagle and American Peregrine Falcon Management Plan* (YCWA 2019). If active nests are found the qualified biologist shall establish an appropriate species-specific avoidance buffer of sufficient size to prevent disturbance of the nest by project activity.
 - If no active nests are detected, no additional action is required.
 - If applicable (i.e., nests are detected as a result of the pre-construction surveys), the qualified biologist shall perform at least two hours of pre-construction monitoring of the nest to characterize “typical” bird behavior. The qualified biologist shall monitor the nesting birds and shall increase the buffer if the qualified biologist determines the birds are showing signs of unusual or distressed behavior by project activities. Atypical nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed toward project personnel, standing up from a brooding position, and flying away from the nest.
 - If applicable the qualified biologist shall have authority to order the cessation of all project activities if the nesting birds exhibit atypical behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established. To prevent encroachment, the established buffer(s) shall be clearly marked by high visibility material. The established buffer(s) shall remain in effect until the young have fledged or the nest has been abandoned as confirmed by the qualified biologist.
-
- b) Implementation of the Proposed Project would not involve any impact to any riparian zone. As such, the Proposed Project would have **no impact** to riparian habitat or other sensitive natural communities.
- c) Implementation of the Proposed Project would not involve any impact to wetlands. Thus, the Proposed Project would have **no impact** on state or federally protected wetlands.
- d) Although the area in the Proposed Project vicinity may serve as a migratory corridor for some terrestrial wildlife species, implementation of the Proposed Project would not include any structures or barriers that would substantially interfere with the movement of any wildlife species or established native resident or migratory wildlife corridors. The only wildlife nursery sites that may be present at the project site are bald eagle, American peregrine falcon, or other migratory bird nests. As described above in “a” **Mitigation Measure BIO-2** would be implemented to ensure wildlife nursery sites are not disturbed.

Based on the assessments provided above, inclusion of **Mitigation Measure BIO-2** into the Proposed Project would ensure a **less than significant impact** on the movement of any native or migratory wildlife species, established native resident of migratory wildlife corridors, and on native wildlife nursery sites.

- e) The Proposed Project would not remove any trees. As such, the Proposed Project would have **no impact** in regard to conflicting with local policies or ordinances protecting trees or other biological resources.
- f) Although a regional conservation plan is currently under development and is intended to serve as a combined federal Habitat Conservation Plan and state Natural Communities Conservation Plan for Yuba and Sutter counties, this plan has not been adopted and is not expected to be adopted before project implementation. Therefore, the Proposed Project would have **no impact** on consistency with an applicable habitat conservation plan or natural community conservation plan.

3.5 Cultural Resources

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.5.1 Setting

Setting information and impact conclusions are derived from the *Cultural Resources Assessment for the Cottage Creek Microwave Project at Bullards Bar Reservoir, Yuba County, California* prepared by Natural Investigations Company (2020).

Prehistoric Setting

The prehistoric timeframes in California's north-central Sierra Nevada region include Paleoindian (13,500–8500 B.P. [before present]), Archaic (8500–1000 B.P.), and Late Prehistoric (1000 B.P.–Historic Contact) periods. There is little archaeological evidence of the Paleoindian and Lower Archaic periods, which predate 5,000 years ago. Excavations of a number of archaeological sites in the subsequent periods show changes in distinct artifact types, subsistence orientation, and settlement patterns, and of an established trans-Sierran trade network, that lasted until historic contact in the early 1800s (Natural Investigations Company 2020).

Ethnographic Setting

The Nisenan (also known as the southern Maidu) historically occupied the Proposed Project vicinity (Kroeber 1925; Wilson and Towne 1978; cited in Natural Investigations Company 2020). East from the Sacramento River to the crest of the Sierra Nevada, the drainages of the American, Bear, lower Feather, and Yuba rivers provided these seasonally mobile hunter-gatherers with an abundance of natural resources. Semi-permanent villages were typically situated along the main watercourses in their territory. Similar to other California Native American groups, the Nisenan employed a variety of tools, implements, and enclosures for hunting, fishing, and collecting natural resources. Acorns, of particular importance to the diet, were stored in village granaries before processing with bedrock or portable mortars and pestles.

The traditional culture and lifeways of the Nisenan were disrupted in the 1830s with disease epidemics that swept through the densely populated region and decimated native populations. The discovery in 1848 of gold in the heart of Nisenan territory and the ensuing Gold Rush had a devastating impact on the surviving Nisenan who retreated to the foothills and mountains or labored for the growing ranching, farming, and mining industries.

Historic Setting

The history of this region is deeply tied to the Gold Rush era. Mining communities, including Bullards Bar, along the rivers in the county blossomed soon after Jonas Spect found gold in June 1848 on the Yuba River, approximately 18 miles east of Marysville. Bullards Bar was established as a mining camp on the North Yuba River in 1849 and named for Dr. Bullard, a miner originally from New York. At the confluence of the Yuba and Feather rivers, the town of Marysville ultimately became the commercial center for the mines of the Northern Mother Lode. Freight and supplies were provided to the camps over narrow pack trails and then wider turnpikes, such as the road constructed in 1860, now County Road E-20 (Marysville Road), connecting Downieville via Dobbin's Ranch, Bullards Bar, and Camptonville (Natural Investigations Company 2020).

As the bars were exhausted, mining efforts moved farther from the rivers. Many of the miners who failed to locate productive claims became traders, supplying materials and provisions, or turned to agriculture, ranching, and logging activities. By 1887, Bullards Bar is described as a lumber, mining, and farming community with a post office and public school. Plumas National Forest, which contributes to the local economy by providing timber for harvesting and milling into lumber, was established in 1905 by President Theodore Roosevelt (Natural Investigations Company 2020).

As early as 1850, a bridge was erected across the North Yuba River at Bullards Bar but was replaced several times as storms washed the bridges away. The first of four dams in the Bullards Bar area was constructed in 1899, and washed out a year later. The second dam, a 30-foot-tall masonry rock dam built in 1900, is still in place, about 1,000 ft downstream of NBBD. The third dam, a 200-foot-tall concrete-arch dam known as Old Bullards Bar Dam, was constructed in 1922-1923, acquired by PG&E a few years later, and inundated when the fourth dam, New Bullards Bar Dam, began operation in 1969. New Bullards Bar Dam was designed in 1964 for flood control and hydroelectric power generation as part of YCWA's Yuba River Development Project and was constructed between 1966 and 1969. The two associated powerhouses, New Colgate and New Narrows 2, were completed and operational in 1970 (Natural Investigations Company 2020).

Results of Project Site Research and Survey

A literature search completed at the North Central Information Center on July 6, 2020, indicated five prior surveys had been conducted within portions of the project area, and seven additional studies have been completed within the 0.25-mile record search radius between 1995 and 2018. No cultural resources have been previously recorded within the project site. Within the 0.25-mile radius, 17 historic-era resources had been previously recorded. Two of these, NBBD (P-58-002706) and New Bullards Bar Reservoir (P-58-002708), were previously found ineligible for listing on the National Register of Historic Places or California Register of Historical Resources. The Bullards Bar Dam Bridge (16C0048) built in 1970 has also been evaluated by the California Department of Transportation (Caltrans) as being ineligible for National Register of Historic Places listing (Natural Investigations Company 2020).

Archival research indicates the project vicinity was part of the gold mining region located along the North Fork Yuba River. The 1861 Official County Map shows the mining camp at Bullards Bar approximately three miles northeast of present-day Cottage Creek Dam. Aerial photographs and historic maps indicate the project site remained undeveloped until construction of Cottage Creek Dam in 1966 (Natural Investigations Company 2020).

An intensive pedestrian survey of the entire 0.43-acre Project Area was conducted by Natural Investigations archaeologist, Phil Hanes, on September 3, 2020. All portions of the Proposed Project Area were surveyed using transects spaced no greater than 15 meters apart. During the survey, all visible ground surfaces were carefully examined for cultural material (e.g., flaked stone tools, tool-making debris, stone milling tools, or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), and historic-era debris (e.g., metal, glass, ceramics). Ground disturbances (e.g., animal burrows, dirt roads, etc.) were also visually inspected.

No previously unrecorded cultural resources of any kind were identified within the Project Area during the field survey. No prehistoric or ethnographic sites, and no other historic-era resources were identified during survey of the project site, and none had been previously recorded within the project site (Natural Investigations Company 2020).

Native American Outreach

Natural Investigations Company contacted the Native American Heritage Commission (NAHC), requesting a search of their Sacred Lands File for traditional cultural resources within or near the project site. The reply from the NAHC, dated July 7, 2020, states that their search was positive for the presence of Native American cultural resources in the Proposed Project vicinity.

By letter dated July 10, 2020, Natural Investigations contacted each of the five Native American tribes or individuals provided by the NAHC, requesting any information regarding sacred lands or other heritage sites that might be impacted by the proposed project. On July 13, 2020, voice mail messages were left for Benjamin Clark, Chairperson and Guy Taylor of the Mooretown Rancheria of Maidu Indians; Tina Goodwin, Chairperson of the Strawberry Valley Rancheria; Grayson Coney, Cultural Director of the T-si Akim Maidu; Gene Whitehouse, Chairperson of the United Auburn Indian Community of the Auburn Rancheria (UAIC); and Clyde Prout, Chairperson, and

Pamela Cubbler, Treasurer of the Colfax-Todds Valley Consolidated Tribe. A response from Colfax-Todds Valley Consolidated Tribe requests project plans and tribal monitoring during ground disturbance (Natural Investigations Company 2020). Responses have not been received from the other tribes.

For more information regarding Native American outreach, please see Section 3.18, *Tribal Cultural Resources*.

3.5.2 Discussion

- a) Based on the negative results of the California Historic Resources Information System search and Native American outreach efforts, as well as the negative findings of the field survey, there is no indication that the Proposed Project will impact any historical resources as defined under CEQA Section 15064.5, unique archaeological resources as defined under CEQA Section 21083.2(g), or known Native American resources. Further, excavations will be minor and relatively shallow. As such, the potential for finding historical or archaeological resources is low. Inadvertent discovery or damage to historical or archaeological resources would be a significant impact. Implementation of **Mitigation Measure CULT-1** would ensure that the project would not result in adverse changes to historical or archaeological resources, by requiring cessation of work, evaluation of significance, and implementation of proper data recovery and/or preservation procedures upon discovery of previously unknown resources. As such, implementation of **Mitigation Measure CULT-1** would reduce this impact to a **less than significant** level.

Mitigation Measure CULT-1. Inadvertent discovery of historical and archaeological resources.

In the unlikely event that buried cultural deposits (e.g., prehistoric stone tools, milling stones, historic glass bottles, foundations, cellars, privy pits) are encountered during project implementation, all ground-disturbing activity within 100 feet of the resources shall be halted and a qualified professional archaeologist (36 CFR 61) shall be notified immediately and retained to assess the significance of the find. Construction activities could continue in other areas. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either a historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.

- b) No prehistoric or historic-era archaeological sites or ethnographic sites were identified during survey of the project site (Natural Investigations Company 2020). However, it is possible that buried or concealed archaeological resources could be present that may be discovered during ground-disturbing and other construction activities associated with the project. Inadvertent discovery or damage to archaeological resources would be a significant impact. Implementation of **Mitigation Measure CULT-1** would ensure that the project would not result in adverse change to archaeological resources, by requiring cessation of work evaluation of significance, and implementation of proper data recovery and/or preservation procedures upon discovery of previously unknown resources. Therefore, this impact would be reduced to a **less than significant** level.

- c) Based on the documentary research described above, no evidence suggests that any prehistoric or historic-era marked or unmarked human interments are present within or in the immediate vicinity of the project site (Natural Investigations Company 2020). However, there is the potential for unmarked, previously unknown Native American or other graves to be present and be uncovered during construction activities. California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and grave-associated items from vandalism and inadvertent destruction and any substantial change to or destruction of these resources would be a significant impact. Implementation of the **Mitigation Measure CULT-2** would reduce this impact to a **less than significant** level.

Mitigation Measure CULT-2. Inadvertent discovery of human remains.

In accordance with the California Health and Safety Code, Section 7050.5, and the Public Resources Code 5097.98, regarding the discovery of human remains, if any such finds are encountered during project construction, all work within the vicinity of the find shall cease immediately, a 100-foot-wide buffer surrounding the discovery shall be established, and the YCWA shall be immediately notified. The County Coroner shall be contacted immediately to examine and evaluate the find. If the coroner determines that the remains are not recent and are of Native American descent, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendent. The Most Likely Descendent shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

3.6 Energy

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.6.1 Setting

The existing location where the telecommunications site would be constructed consists of a water treatment plant, parking lot lights, and restrooms that consume energy for current operations. The passive repeater would be located on a hillside with no energy sources. Given the nature of the Proposed Project, the sources of energy that would be most relevant are electricity and propane fuel for the operation of the new infrastructure at the telecommunication site and fuel for vehicle trips associated with construction of the Proposed Project at both sites.

3.6.2 Discussion

a, b) Construction

Proposed Project construction would involve consumption of energy resources related to use of oil, gasoline, and diesel fuel for construction work vehicle trips, hauling truck trips, materials delivery truck trips, and operation of off-road construction equipment. Construction would not require the use of natural gas appliances or equipment. Diesel-powered construction equipment includes a small excavator, small loader (bobcat), and crane. However, at most, only two pieces of diesel-powered construction equipment would operate at one time during the construction period. Equipment would operate on average for eight hours per day.

The operation of all construction equipment would be regulated by the CARB In-Use-Off-Road Diesel Vehicle Regulation. This regulation is intended to reduce emissions from in-use off-road, heavy-duty diesel vehicles by limiting idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into construction fleets, requiring emissions by retiring, replacing, or repowering older engines. These regulations would result in the use of fuel-efficient construction vehicles.

Based on FRAQMD's Indirect Source Review Guidelines, the Proposed Project is a "Type 1" project, which is a land use that would generate operational emissions. A Type 1 project is considered to have a less than significant impact if the daily construction and operational emissions do not exceed 25 pounds per day (lbs/day) of nitrogen oxide (NO_x) or reactive organic gases (ROG), and the daily emissions of 80 lbs/day of PM₁₀, as shown above in Table 3. As shown above in Section 3.3, Air Quality Tables 4 and 5, daily and annual emissions would not exceed the FRAQMD thresholds of significance for construction or operational emissions.

Maintenance and Operations

Utilities are already established at the telecommunications site. However, the Proposed Project would extend power at the site to the telecommunications building and the microwave tower. The electric feed that currently exists to power the water treatment plant, parking lot lights, and restrooms are from two PG&E owned 15KVA pole mounted transformers. The Proposed Project would remove the overhead service drops and replace them with a single underground electrical service that would be routed to a new service entrance panelboard with meter which will distribute power to the electrical loads at the water treatment plant, parking lot lights and restrooms, new automatic gate opener, new telecommunications building, and new microwave tower.

Operation of the microwave tower and new telecommunications building would be the only new permanent source of energy consumption at the Proposed Project site. The generator selected for installation, an 80-kW propane generator would only operate in the event of a power outage and for monthly routine maintenance tests. There would be no use of energy for operations of the passive repeater. However, an additional annual vehicle trip from the telecommunications site to the passive repeater site would occur annually for vegetation maintenance.

The retrofitting of the current electrical infrastructure into a single underground feed will be an improvement to the existing electrical infrastructure. The additional use of electricity to power the microwave tower and the new telecommunications building would not result in much additional energy use relative to existing conditions. Further, operational activities would not use energy in an inefficient, wasteful, or necessary manner.

Based on the above considerations, the Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Further, the Proposed Project would not conflict with or obstruct a State or local plan for renewable energy and energy efficiency. As such, the Proposed Project would have a **less than significant** impact on energy.

3.7 Geology/Soils

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.7.1 Setting

Geological and Soil Characteristics

The eastern portion of Yuba County, in the foothills of the Sierra Nevada, including the project area, is generally comprised of metavolcanic (Mesozoic Jura-Trias Metavolcanic) and granitic (Mesozoic Granitic) formations. The Proposed Project sites are underlain by volcanic rocks of the Jurassic Smartville Complex as rifted volcanic-subvolcanic edifice that formed in a Jurassic arc, primarily in a submarine environment. The rocks at the site are part of the upper volcanic unit and consist of metamorphosed pyroclastic and volcanoclastic rocks of intermediate composition (ENGEO 2020). In general, these rocks, when freshly weathered, are very hard and massive. However, weathering can result in thick residual soil and less competent rock.

The telecommunications site is a relatively level gravel-covered yard. To the north and west are rock outcroppings in a cut slope. The only vegetation at this site is weeds and small grasses. Subsurface exploration of this site revealed fill composed of dense clayey gravel with sand to a depth of approximately 3 ft. The gravel consisted of angular metavolcanic rock fragments with a sand and medium plasticity clay matrix. Borings from the site encountered native meta-volcanic rock of the Smartville complex beneath the fill (ENGEO 2020).

The passive repeater site is on a vegetated hillside. Here the subsurface exploration encountered a thin layer of fill (likely related to power line access road grading) composed of red, stiff, lean clay with sand to a depth of 1 ½ ft. Below the fill borings revealed native, stiff to hard, lean clay with varying sand content extending to the depth of the 50 ft core (ENGEO 2020).

Seismicity

There are no Alquist-Priolo seismic faults located in Yuba County. The nearest fault to the Proposed Project site is the Big Bend-Wolf Creek fault zone, which lies under New Bullards Bar Reservoir and considered inactive (GEI Consultants 2016). The nearest faults considered active are the Little Grass Valley fault and the Cleveland Hill fault, located 18 and 19 miles away, respectively. The Little Grass Valley fault is considered the controlling fault and has a Maximum Credible Earthquake magnitude of 6.75 at a distance of 15 miles from project area.

Paleontological Resources

Project plans, geologic maps of the project site, and relevant geological and paleontological literature were reviewed to determine which geologic units are present within the project site and whether fossils have been recovered within the project site or from those or similar geologic units elsewhere in the region. A search for known fossil localities was also conducted on July 17, 2020, by Natural Investigations Company through the online collections database of the University of California Museum of Paleontology in order to determine the status and extent of previously recorded paleontological resources within and surrounding the project site.

The University of California Museum of Paleontology database indicates there are no vertebrate localities, one invertebrate locality, and two fossil plant localities in Yuba County, none of which are in the project vicinity (University of California Museum of Paleontology 2020). The

invertebrate locality, which is Recent in age, and the Tertiary-age marine plant localities have no specimens listed in the database.

None of the rock units listed in the University of California Museum of Paleontology database for Yuba County are present within the project site, which is underlain by Jurassic and Triassic-aged (251.9 to 145 million years ago) metavolcanic rocks (Jrv and Mzv).

Paleontological Sensitivity

The metavolcanic rocks that underlie the project site have low sensitivity for paleontological resources, as fossils are absent due to the high temperature and pressure conditions associated with their formation. Thus, based on the Society for Vertebrate Paleontology the paleontological resource sensitivity within the Proposed Project area is estimated to be low (Natural Investigations Company 2020). Additionally, the project site contains no unique geologic features.

3.7.2 Discussion

- a) The Proposed Project area is not located within an Alquist Priolo Earthquake Fault Zone. The Proposed Project sites are located a considerable distance (18 miles) from the nearest fault zone (Little Grass Valley) that is considered active. Although there is a low probability for earthquake hazards, there is potential for some ground shaking to occur if an earthquake were to occur at the Little Grass Valley fault.

The new structures (i.e., microwave tower, telecommunications building, and repeater tower with passive repeater) would be designed using sound engineering judgment and the 2019 California Building Code requirements. As part of the building code structures must be designed to resist minor earthquake without damage, resist moderate earthquakes without structural damage but with some nonstructural damage, and resist major earthquakes without collapse but some structural and nonstructural damage. As such, there would be **less than significant** impact on the exposure of people or structures to adverse effects involving fault lines, seismic-related ground shaking and failure, and landslides.

- b) Construction of the Proposed Project involves excavation at both sites. The temporary exposure of disturbed soils, particularly at the passive repeater site, could result in soil erosion. However, the Proposed Project would be constructed during dry periods which would ensure minimal potential erosion or loss of topsoil.

After construction is complete the exposed earthwork at the passive repeater site would be seeded and mulched to ensure that erosion does not occur during the wet season. The telecommunications site would be restored to existing conditions which consists of gravel and small rocks. As a result of construction occurring over one season, it also is anticipated that disturbed sediments at the passive repeater site would be substantially stabilized and resistant to mobilization and transport within the first year after construction is finished. Therefore, the Proposed Project would have a **less than significant** impact on soil erosion and loss of topsoil.

- c) The geotechnical exploration concluded the sites are suitable for the proposed improvements and the Proposed Project sites are located on soils that are generally

considered stable (ENGEO 2020). Therefore, the Proposed Project would have a **less than significant** impact on the potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

- d) The Proposed Project is not in an area containing expansive soils. Therefore, the Proposed Project would have **no impact** on the risk to life or property from expansive soils.
- e) The Proposed Project would not involve the construction of septic tanks or alternative wastewater disposal systems. Therefore, the Proposed Project would have **no impact** on soils utilized for septic tanks or alternative wastewater disposal systems.
- f) No paleontological resources or unique geologic features are known to exist within or near the project site. As noted, the project site is underlain by Jurassic and Triassic metavolcanic rocks that have low sensitivity for paleontological resources. No mitigation measures for paleontological resources are required. Therefore, the Proposed Project would have **no impact** on a unique paleontological resource or site or unique geologic feature.

3.8 Greenhouse Gas Emissions

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Setting

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have

varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO₂e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than CO₂ on a molecule per molecule basis (IPCC 2014).

Anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the concentration of GHGs in the atmosphere that trap heat. Since the late 1700s, estimated concentrations of CO₂, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (U.S. EPA 2020). Emissions resulting from human activities are thereby contributing to an average increase in Earth’s temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the “California Global Warming Solutions Act of 2006.” AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (discussed further below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of carbon dioxide equivalents (CO₂e) by 2030 and two MT of CO₂e by 2050 (CARB 2017).

Thresholds

Individual projects do not generate sufficient GHG emissions to influence climate change directly. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project’s contribution towards an impact would be cumulatively considerable. “Cumulatively considerable” means the incremental effects

of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]). According to the CEQA Guidelines, projects can tier off of a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (AEP 2016). Neither the Yuba County Water Agency nor Yuba County has an adopted GHG reduction plan and thus this approach is not currently feasible for this analysis.

To evaluate whether a project may generate a quantity of GHG emissions that may have a significant impact on the environment, a number of operational bright-line significance thresholds have been developed by state agencies. Significance thresholds are numeric mass emissions thresholds which identify the level at which additional analysis of project GHG emissions is necessary. Projects that attain the significance target, with or without mitigation, would result in less than significant GHG emissions.

FRAQMD has not established quantitative significance thresholds for evaluating GHG emissions in CEQA analyses. Instead, FRAQMD, in its *Indirect Source Review Guidelines*, recommends using the California Air Pollution Control Officers Association *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act* white paper and other resources when developing GHG evaluations (FRAQMD 2010; California Air Pollution Control Officers 2008). The CEQA and Climate Change paper provides a common platform of information and tools to support local governments and was prepared as a resource, not as a guidance document. However, CEQA Guidelines section 15064.4 expressly provides that a "lead agency shall have discretion to determine, in the context of a particular project," whether to "[u]se a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use." A lead agency also has discretion under the CEQA Guidelines to "[r]ely on a qualitative analysis or [quantitative] performance-based standards."

The *Yuba County 2030 General Plan* includes the following applicable policies related to reducing GHG emissions in Yuba County (Yuba County 2011a):

- **Policy HS5.5:** For proposed industrial projects, including those with new stationary sources of emissions and other uses where location, land use mix, and density is not an important indicator of GHG emissions rate, the County will require incorporation of feasible technologies or management practices and best available control technologies, in coordination with Feather River Air Quality Management District, and in compliance with regulations effective at the time of project review.
- **Policy HS6.1:** New developments shall implement emission control measures recommended by the Feather River Air Quality Management District for construction, grading, excavation and demolition, to the maximum extent feasible.

In light of the lack of a specific GHG threshold from FRAQMD, it is appropriate to refer to guidance from other agencies when discussing GHG emissions. Thus, for the purposes of this

analysis, thresholds developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) are considered to determine the significance of GHG emissions. These thresholds are intended to evaluate a project for consistency with GHG targets established in AB 32, SB 32, and the 2017 CARB Climate Change Scoping Plan, particularly for operational emissions occurring post 2030. SMAQMD recommends the following project-level GHG thresholds:

- 1,100 MT of CO₂e per year for construction related GHG emissions
- Demonstrate consistency with the State Climate Action Plan by implementing BMPs 1 and 2, or equivalent on-site or off-site mitigation, as applicable for operation related GHG emissions:
 - BMP 1: Projects shall be designed and constructed without natural gas infrastructure
 - BMP 2: Projects shall meet the current CALGreen Tier 2 Standard, except all EV capable spaces shall be instead EV

If a project implements the BMPs 1 and 2 and GHG emissions from its first full year of operation are below 1,100 MT of CO₂e, then impacts would be less than significant, and no further action would be needed (SMAQMD 2020).

For stationary sources, SMAQMD recommends an operational threshold of 10,000 MT of CO₂e per year (SMAQMD 2020).

Methods

Emissions associated with construction activities were estimated using CalEEMod, version 2016.3.2 (see Appendix B). Construction would include mobilization, clearing and grubbing, construction of the telecommunication and passive receptor structures, retrofitting of the electrical infrastructure, and demobilization.

For some phases where construction equipment is not currently known, default CalEEMod assumptions were used instead. Assumptions were also made regarding average worker commute trips by construction phase, average haul truck capacity (13 cubic yards), and worker, vendor, and hauling trip lengths, as detailed in Section 3.3, Air Quality. CalEEMod assumptions and results are summarized in Appendix B. The analysis focuses on CO₂, CH₄, and N₂O because these make up 98.9 percent of all GHG emissions by volume (IPCC 2007) and are the GHG emissions that the Proposed Project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF₆, were also considered for the analysis, but because the project is a telecommunication tower, the quantity of fluorinated gases would not be significant, since fluorinated gases are primarily associated with industrial processes.

Vegetation maintenance would occur using handheld tools and would not result in any emissions. As such, the vegetation maintenance phase is not discussed further in this section.

3.8.2 Discussion

- a) Construction and operation of the Proposed Project would generate GHG emissions. Construction activity is estimated to occur over a period of approximately five months. As shown in **Table 8**, construction activity for the Proposed Project would generate an estimated 54 MT of CO₂e. As shown in **Table 9**, the Proposed Project would generate less than one metric ton of CO₂e per year during operation and the 80-kW backup emergency generator would emit approximately 10 MT of CO₂e per year.

Construction related GHG emissions from the Proposed Project would not exceed the SMAQMD threshold of 1,100 MT of CO₂e per year. Operational related GHG emissions would not exceed 1,100 MT of CO₂e per year. The Proposed Project would also comply with BMP 1 because it would not include natural gas infrastructure. BMP 2 would not be applicable since CALGreen standards are not mandatory for industrial developments and the Proposed Project would not provide parking. The 80-kW backup generator would also be below the SMAQMD threshold of 10,000 MT of CO₂e per year. Therefore, impacts would be **less than significant**.

Table 8. Estimated Construction Emissions of Greenhouse Gases

Construction Year	Annual Emissions (CO ₂ e MT/year) ^{1xYT}
2021	54
CO ₂ e = carbon dioxide equivalents MT = Metric Tons	
¹ Modeled values represent total emissions that would occur over the duration of the construction period. See Appendix B for detail on model inputs, assumptions, and project specific modeling parameters.	

Table 9. Estimated Operational Emissions of Greenhouse Gases

Operation Year	Annual Emissions (CO ₂ e MT/year) ¹
2022	<1
2022 (Stationary Source)	10
CO ₂ e = carbon dioxide equivalents MT = Metric Tons	
¹ Modeled values represent total emissions that would occur annually. See Appendix B for detail on model inputs, assumptions, and project specific modeling parameters.	

- b) The Proposed Project would be generally consistent with applicable regulations and plans addressing GHG reductions. As discussed in “a” above, the Proposed Project’s construction emissions would not exceed SMAQMD recommended thresholds for GHG emissions. SMAQMD’s recommended construction and operational thresholds and mitigation measures were developed to show consistency with the GHG reduction goals of AB 32 and SB 32. Therefore, the Proposed Project would not conflict with or obstruct implementation of CARB’s 2017 Scoping Plan for achieving GHG reductions consistent with AB 32 and SB 32 and would achieve reductions consistent with SMAQMD’s guidance. The Proposed Project would also be consistent with the *Yuba County 2030*

General Plan since it would implement construction BMPs to control fugitive dust during construction (Policy HS6.1) and the proposed stationary source would be a backup generator powered by a propane engine that would comply with FRAQMD Rule 3.22 *Stationary Internal Combustion Engines* (FRAQMD 2020c). This impact would be **less than significant**.

3.9 Hazards & Hazardous Materials

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Setting

Existing and past land uses are used as common indicators of sites where hazardous material storage and use may have occurred, or where potential contamination may currently exist. Although common household products such as solvents, household cleaning products and gasoline are present in Yuba County and around Emerald Cove Marina there are programs in place to ensure

that these wastes are disposed of properly. Hazardous materials and wastes are regulated by federal and state laws and are required to be recycled or properly disposed.

Yuba County is the local Certified Unified Program Agency that manages programs for hazardous materials storage and hazardous waste disposal. No hazardous waste sites are located within or adjacent to the project area (California Department of Toxic Substances Control 2018). The potential severity of a hazardous material incident depends on the type, location, and quantity of the material released. The potential for hazardous material or waste spills during transport generally reflects the greatest risk of public exposure given residences that are typically close to transportation corridors.

The Proposed Project sites are located on land owned by YCWA. Project sites are in an area identified by the CalFire with very high fire hazard severity (CalFire 2019), which is the highest fire hazard rating. Project sites are located within the Dobbins Oregon House Fire District of the Yuba County Foothills Wildfire Protection Plan, immediately adjacent to the Camptonville Community Service District.

The Proposed Project sites are generally located within the “threat” zone of the Dobbins Oregon House Fire District, which is the lowest level of risk to people or structures, aside from unrated lands. However, a portion of the project site is located within the area of infrastructure associated with Emerald Cove Marina and this area is located within the “defense” zone of the Dobbins Oregon House Fire District, which is the middle level of risk to people or structures. A number of wildfires have ignited in the vicinity of the project area, including the Bullards Incident Fire in 2010, and are documented in Yuba County’s Wildfire Protection Plan (Yuba County 2014). Altogether, the results of the Wildfire Protection Plan assessment place the project area in an area of moderate to high wildland fire hazard.

There are no airports in the vicinity of the Proposed Project. The closest airports to the project site are two general-aviation airports (Brownsville Aero Pines Airport and Old Aerodome), located approximately 16 miles northwest and 17 miles southwest of the site, respectively.

3.9.2 Discussion

- a, b) Hazardous materials such as fuel, and potentially other construction materials, would be present on the project site for the Proposed Project. During the construction period, vehicle and maintenance fluids would be stored at the construction staging areas and no acutely hazardous materials would be used. All potentially hazardous materials would be used in accordance with applicable federal, state, and local laws, including Cal-OSHA requirements and manufacturer’s instructions. Therefore, the Proposed Project would have a **less than significant** impact on the creation of a significant hazard to the public or the environment through the routine transport of disposal materials.
- c) The project area is not located within one-quarter mile of an existing or proposed school. Therefore, the Proposed Project would have **no impact** on a school as related to emission of hazardous materials, substances, or waste.

- d) Based on a search of the State of California EnviroStor database, the project area is not located on, or near, any federal-, state-, or local-designated hazardous wastes site (California Department of Toxic Substances Control 2018). Therefore, the Proposed Project would have **no impact** on the related safety of people residing or working in the project area.
- e) The Proposed Project is not located within an airport land use plan or within two miles of a public airport or public use airport. Therefore, the Proposed Project would have **no impact** on safety hazards or excessive noise for people residing or working in an airport land use plan area or within two miles of a public or public use airport.
- f) Construction of the Proposed Project would require hauling of equipment and materials on county- and state-maintained roads, which could temporarily slow the passage of vehicles during emergencies. However, project-related construction activities would be temporary over the course of approximately four months requiring up to approximately two to three construction-related trips per day during the most intensive portion of the construction period. Thus, the project-related trips would not substantially hinder the passage of emergency vehicles or the implementation of any evacuation plan. Therefore, the Proposed Project would have a **less than significant** impact on an emergency response plan or emergency evacuation plan.
- g) Construction activities for the Proposed Project's facilities would occur in an area designated in the Yuba County General Plan to have "very high" wildland fire risk. Construction of the Proposed Project could present a potential for substantial risk of wildland fire if proper fire prevention measures are not implemented. However, as indicated in Section 2.3.9, a fire plan would be developed and implemented for the construction activities that would reduce the potential construction-related fire hazard. The fire plan would include standard fire prevention measures such as identifying construction sites as non-smoking areas, training personnel, and equipping personnel with portable communication devices. Therefore, the Proposed Project would have a **less than significant** impact on the exposure of people or structures involving wildland fires.

3.10 Hydrology/Water Quality

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would;				
i. Result in substantial erosion or siltation on-or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants to project inundation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.10.1 Setting

New Bullards Bar Reservoir is the principal storage facility of the Yuba River Development Project and is operated by YCWA for water supply and flood control. Along with the New Bullards Bar Reservoir, the Proposed Project is located within the North Yuba River sub-basin, one of seven major drainages in the Yuba River basin. In total, the North Yuba River is approximately 43.3 miles long, and converges with the Middle Yuba River about 2.3 miles south of New Bullards Bar Dam, to form the main stem of the Yuba River.

New Bullard Bar Reservoir and the North Yuba River provide water for several beneficial uses, including: irrigation and stock watering, municipal and domestic supply, power supply, contact and non-contact recreation, warm and cold freshwater habitat, cold spawning habitat, and wildlife habitat (Central Valley Regional Water Quality Control Board 2018).

New Bullards Bar Reservoir and the North Yuba River are Clean Water Act Section 303(d)-listed for impairments associated with mercury (State Water Resources Control Board 2017). The Yuba River watershed, including New Bullards Bar Reservoir, contains a substantial amount of sediments with mercury, as a result of the large scale use of mercury in historical gold mining operations. It is transported by erosion processes and can be converted into methylmercury by bacteria within the sediments. Methylmercury bioaccumulates through the trophic levels of the food chain such that the top trophic levels (i.e., larger predatory fishes) have greater concentrations of methylmercury in their tissues than do the lower trophic levels (e.g., algae and invertebrates)

The groundwater basin underlying Yuba County is divided by the Yuba River into the North and South subbasins. These two subbasins encompass an area of approximately 270 square miles and are considered subbasins to the Sacramento Valley groundwater basin. They are hydraulically isolated from the Sacramento Valley basin by surface streams that surround it. On August 11, 2015, YCWA passed and adopted a resolution electing to become a groundwater sustainability agency. As part of this commitment YCWA has maintained and improved their Groundwater Management Plan that was originally developed in 2005. The current Groundwater Management Plan is designed to build on and formalize the management of the County's groundwater resources and to develop a framework for implementing future activities (YCWA 2010).

Regulatory Framework

The federal Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants to surface waters within the United States. The CWA authorizes the U.S. EPA to delegate many permitting, administrative, and enforcement aspects of the law to state governments. In such cases, however, U.S. EPA still retains oversight responsibilities. Such responsibility has been delegated to the State of California, which administers the CWA through the State Water Resources Control Board (SWRCB) and nine regional water quality control boards (RWQCBs).

The Proposed Project is less than one acre so it would not be required to obtain NPDES coverage under Orders 2010-0014-DWQ and 2012-0006-DWQ (General Construction Permit). Instead, standard BMPs to control pollution and stormwater runoff are incorporated into AMM 3 (see Section 2.3.9).

3.10.2 Discussion

- a) Construction activities with the potential to affect water quality would occur only at the telecommunication tower site due to its location near New Bullards Bar Reservoir. Due to the location of the passive repeater site there is no potential for project activities to impact water quality. The telecommunication tower site is located across the Emerald Cove Marina parking lot and adjacent vegetated hillside from New Bullards Bar Reservoir. Construction at this location that could potentially affect water quality includes excavation for the propane tank and facility foundations, and trenching for back-up power to water treatment plant as well as a new power run.

Work is planned to occur in a single construction period during dry periods when risk of rainfall and related stormwater runoff at the site would be minimal. The above-described construction activities have the potential to result in temporary water quality effects to the following physical or chemical constituents: total suspended solids (TSS), turbidity, oil and grease, petroleum hydrocarbons, and trash. Construction-related eroded soil and runoff also may contain organic matter, plant nutrients (nitrogen and phosphorus), and other contaminants such as trace metals.

See discussion under "ci" below for an explanation on why there would be no substantial erosion or siltation potential that could cause impacts to water quality during the maintenance and operational phases of the Proposed Project.

Total Suspended Solids and Turbidity

The distance between the telecommunications tower site and New Bullards Bar Reservoir (i.e., across from the Emerald Cove Marina parking lot; approximately 350 ft) reduces potential for water quality effects to occur from the Proposed Project. Nevertheless, direct discharges of soil and suspended sediment to New Bullards Bar Reservoir resulting in increases in TSS and turbidity levels could potentially occur. Project components that could result in direct discharges of soil and suspended sediment include; excavation for the propane tank and facility foundations, and trenching for back-up power to water treatment plant. Once construction work commences, excavation and other telecommunication site construction is expected to take 60 to 70 days.

Aquatic life beneficial uses would be most sensitive to elevated TSS and turbidity levels in the reservoir. Chronic increased concentrations of suspended solids and resulting increased turbidity are of concern to fish because at sufficiently high levels, they can cause species to avoid turbid waters. At very high and sustained levels, TSS/turbidity can reduce feeding and growth; displace juveniles; cause physiological stress, respiratory impairment, and gill damage; reduce tolerance to disease and toxicants; reduce survival; and cause direct mortality (Sigler et al. 1984, Stern 1988, Newcombe and Jensen 1996, Bash et al. 2001, Madej et al. 2004).

Construction-related activities would result in the temporary disturbance of soils. However, the construction site is separated from New Bullards Bar Reservoir by the Emerald Cove Marina parking lot and vegetated hillside and construction would occur during dry periods, so the risk of increased erosion and offsite runoff entering New Bullards Bar Reservoir would be low during the construction period. The implementation of appropriate erosion control and pollution prevention BMPs (AMM 3) would avoid and minimize construction-related erosion and potential for TSS and turbidity from the construction work to enter into New Bullards Bar Reservoir.

The relatively minor soil disturbances from construction-related activities would not cause measurable concentrations of mercury into New Bullards Bar Reservoir.

In short, runoff from the telecommunications site during construction or operations of the Proposed Project is not expected to occur, however if in the unlikely event runoff did enter New Bullards Bar Reservoir, TSS/turbidity levels in New Bullards Bar Reservoir would not reach levels high enough, or last long enough, to cause adverse feeding or growth effects, permanently displace juvenile fishes from the area, cause physiological stress, cause respiratory impairment or gill damage, reduce fish health and thus tolerance to disease and toxicants, reduce survival, or cause direct mortality. Moreover, if elevated TSS/turbidity levels were to occur they would return to background levels every night (i.e., half of every 24-hour period), and would not reach TSS/turbidity levels as high as those that occur every winter during and immediately following substantial rain events.

There would be no potential for soil disturbance or generation of TSS after completion of the Proposed Project because there would be no exposed soils. As such, the Proposed

Project would not contribute to long-term changes in TSS and turbidity levels in New Bullards Bar Reservoir, the North Yuba River, or downstream waterbodies.

Petroleum Hydrocarbons and Other Construction-Related Contaminants

The use of motorized equipment, and storage and handling of fuels and equipment lubricants and fluids, may result in petroleum product discharges that could be harmful to water quality if they directly enter New Bullards Bar Reservoir or are spilled on the ground where they may enter the groundwater, or be mobilized and transported in stormwater runoff following construction. Other potential construction-related contaminants associated with the equipment used or inadvertently discharged by construction workers may include trash, cleaners, solvents, and human sanitary wastes. The potential for direct discharge of equipment-, facility-, or worker-related contaminants to New Bullards Bar Reservoir from work at the telecommunication site would occur on the opposite side of, the Emerald Cove Marina parking lot from New Bullards Bar Reservoir.

Aquatic life beneficial uses would be most sensitive to the discharge of contaminants to New Bullards Bar Reservoir. For example, petroleum products can cause oily films to form on the water surface that can reduce dissolved oxygen levels available to aquatic organisms. The magnitude of effects on aquatic life resulting from accidental contaminant spills would depend on several factors related to the spill, including the proximity to the water body; the type, amount, concentration, and solubility of the contaminant; and the timing and duration of the discharge. The severity of the effect also depends on species and life stage sensitivity, duration of exposure, condition, or health of individuals (e.g., nutritional status), and physical or chemical properties of the water (e.g., temperature, dissolved oxygen). Potential effects can range from no effects to mortality of aquatic organisms.

As stated above, construction activities would be conducted during dry periods when stormwater runoff would be low or nonexistent. Further, YCWA would require its contractors to implement appropriate construction BMPs for all activities that may result in the discharge of construction-related contaminants from disturbed construction areas.

Implementation of appropriate erosion control and pollution prevention BMPs would avoid and minimize construction-related erosion and contaminant discharges. In addition, the Proposed Project site and New Bullards Bar Reservoir are separated by a the Emerald Cove Marina parking lot and a vegetated hillside (i.e., over 350 ft). As such, the potential for indirect discharges of contaminants during the construction period, or via stormwater runoff following construction into New Bullards Bar Reservoir, is considered very low.

In summary, the risk of direct discharges of construction-related contaminants to water would be very low, site disturbances would be of short duration during a single season when with limited exposure to rainfall and stormwater runoff, and implementation of construction BMPs would further avoid and minimize potential adverse construction-related effects. Additionally, because construction-related disturbances and potential constituent discharges would be temporary, construction activities would not be expected to cause any substantial increase in levels of any bioaccumulative pollutants that would

result in measurably higher body burdens of a pollutant in aquatic organisms or wildlife, nor contribute to long-term water quality degradation from mercury by measurable levels such that the Clean Water Act Section 303(d)-designated beneficial use impairment for New Bullards Bar Reservoir and the North Yuba River would be made discernibly worse. Furthermore, the Proposed Project would not be expected to cause constituent discharges of sufficient frequency and magnitude to result in a substantial increase of exceedances of water quality objectives/criteria, nor substantially degrade water quality with respect to constituents of concern, and thus would not adversely affect any beneficial uses in New Bullards Bar Reservoir or the North Yuba River.

In summary, the Proposed Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality; potential construction-related water quality impacts would be **less than significant**.

- b) The Proposed Project would not involve extraction of groundwater or a change in surface water diversion capacity that would impede groundwater recharge. Therefore, the Proposed Project would have **no impact** on groundwater supplies or recharge or the sustainable groundwater management of the underlying basin.
- c) The Proposed Project would result in minor temporary changes in site hydrology resulting from construction disturbances such as excavation and grading, general equipment use, and vegetation removal. However, these activities would take place during dry periods, thus reducing potential for such hydrologic changes. New impervious surfaces include the telecommunications building and its foundation, the foundation of the microwave tower, and two approximately one ft diameter concrete footings for the repeater tower with passive repeater.
- c-i) Construction of the Proposed Project would cause temporary disturbances to occur at the telecommunications and passive repeater sites. Minimal grading would be needed at the telecommunications site and passive repeater sites due to the small size of the Proposed Project footprint. Yet, this grading would cause top soils at both sites to become more compacted, which would reduce erosion potential following construction. Construction of the Proposed Project would occur during dry periods so soil erosion is unlikely to occur from rainfall or stormwater runoff events. Implementation of erosion control BMPs would be employed to ensure no substantial erosion or siltation into surrounding drainages. Thus, the small temporary disturbance zones and earthwork would not cause substantial erosion or siltation at the Proposed Project sites or in the vicinity of the Proposed Project during construction.

At the telecommunications site the new structures and associated foundations would exist in a flat gravel area. Thus, there would be no new exposed soil surfaces and no potential for generation of erosion or siltation on- or off- site during the maintenance and operational phase of the Proposed Project.

The passive repeater site is located on a steep hillside, but after construction is completed the area would be reseeded so that no soils are exposed. During maintenance activities some vegetation would be removed by hand, but this would not result in additional soil

exposure. Project engineers have incorporated the geotechnical evaluation results into the design of the passive repeater and would ensure that permanent placement of the structure would not lead to any potential increases in landslides, slope instability, or substantial drainage changes. Therefore, the Proposed Project would have a **less than significant** impact on erosion or siltation on or off-site.

- c-ii) Construction of the Proposed Project would require installation of facility foundations (i.e., tower foundation, telecom foundation, and generator foundation) comprised of concrete within the footprint of the existing water treatment plant laydown yard. Although these foundations would be small (i.e., 91 square ft or smaller), they would contribute small new areas of impervious surface within the water treatment plant laydown yard. Grading from construction would compact top soils at both sites. Drainage at the existing telecommunications site occurs via runoff seeping through the gravel base. The pervious nature of the water treatment yard prevents substantial surface runoff. Creation of small areas of impervious surfaces and small areas of graded soil from the Proposed Project would not change runoff patterns from those that occur under existing conditions as water would continue to drain through the pervious surface.

A very small amount of foundation work will also be completed at the passive repeater site. The passive repeater itself would be elevated off the ground on the repeater tower. Thus, during precipitation events runoff would flow under the repeater tower legs or around the concrete footings that would support the tower. Project engineers have incorporated the geotechnical evaluation results into the design of the passive repeater to ensure that permanent placement of the structure would not lead to any potential increases in landslides, slope instability, or substantial drainage changes.

The new impervious surfaces and small areas of graded soil are not large enough to cause a substantial change in the drainage pattern at the Proposed Project sites. Further, soils at both sites would continue to adsorb precipitation and not create substantial amounts of additional runoff. Therefore, the Proposed Project would have a **less than significant impact** on the amount of surface runoff from the site and on- or off-site flooding.

- c-iii) As described above in “a,” the Proposed Project would not result in substantial contributions of pollutants to adjacent waters. There are no existing or planned stormwater drainage systems at the telecommunication site or the passive repeater site. At the telecommunications site, water would continue to drain through the existing and placed gravel. As described in “b” the passive repeater is designed to not substantially change drainage patterns. Thus, drainage at both sites would continue to function similarly to drainage under existing conditions. The Proposed Project’s contribution of runoff water would have a **less than significant impact** on the capacity of existing or planned stormwater drainage systems or additional sources of polluted runoff.
- c-iv) The Proposed Project consists of excavation for the propane tank, facility foundations, and trenching for back-up power to water treatment plant as well as a new power run would all occur at the telecommunications site. The concrete pads for the facility foundations would be very small. At the passive repeater site two small concrete footings would be installed

to support the repeater tower with billboard type passive repeater. At both sites, grading would cause some small areas of soil compaction. The small size of temporary and permanent disturbances at both sites would not impede or redirect flood flows. Therefore, the Proposed Project would have a **less than significant** impact on flood flows.

- d) The Proposed Project is not located in a region subject to a seiche or tsunami. The Proposed Project is also not in a flood hazard zone. Further, the construction period would occur during dry periods. As such, there would be no risk of flooding during the construction period. Therefore, the Proposed Project would have **no impact** on pollutant release due to a flood hazard or due to inundation by seiche or tsunami.
- e) As described above in “b” the Proposed Project would not result in depletion of groundwater or impeded groundwater recharge in the project area. As such, it would not conflict with or obstruct the sustainable Groundwater Management Plan utilized by YCWA. Therefore, the Proposed Project would have **no impact** with regard to conflicting with or obstructing the implementation of a water quality control plan or sustainable groundwater management plan.

3.11 Land Use/Planning

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.11.1 Setting

The Proposed Project is located in an unincorporated area of Yuba County in an area zoned as “Public” land.

3.11.2 Discussion

- a) The Proposed Project consists of temporary construction activities over the course of approximately four months in a rural area on public lands, and there are no residential communities in the near vicinity of the Proposed Project area. Therefore, no local communities would be divided as a result of the Proposed Project. As such, the Proposed Project would have **no impact** on an established community.
- b) The Proposed Project is located within lands zoned for public use. These land uses are intended to support public recreation and/or general use. The Proposed Project would not affect the public use of these lands or conflict with any land use plan, policy, or regulation. Therefore, the Proposed Project would have **no impact** due to a conflict with any

applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigation environmental effects.

3.12 Mineral Resources

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.1 Setting

Precious metals and commercially valuable rock and minerals are available in Yuba County, as documented in the Yuba County General Plan (Yuba County 2011a). The General Plan policies serve to balance compatible mineral resources development and other land uses. Numerous precious metal and mineral mining operations exist within the Sierra Nevada foothills, however, there are no mineral resource extraction activities occurring within the Proposed Project area.

3.12.2 Discussion

- a,b) The Proposed Project would involve a relatively minor amount of temporary construction activity. The construction activity would not result in the removal of any mineral resources potentially underlying the project area, nor preclude any future mineral extraction activities that might arise. Therefore, the Proposed Project would have **no impact** on the availability of mineral resources.

3.13 Noise

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Setting

Noise

The unit of measurement used to describe a noise level is the decibel (dB). However, the human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called “A-weighting” is used to filter noise frequencies that are not audible to the human ear. A-weighting approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the “A-weighted” levels of those sounds. Therefore, the A-weighted noise scale is used for measurements and standards involving the human perception of noise. In this analysis, all noise levels are A-weighted, and the abbreviation “dBA” is understood to identify the A weighted decibel.

Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. A 10 dB increase represents a 10-fold increase in sound intensity, a 20 dB increase is a 100-fold intensity increase, a 30 dB increase is a 1,000-fold intensity increase, etc. Similarly, a doubling of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the noise source would result in a 3 dB decrease.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two equivalent noise sources combined do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA (increase or decrease); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (California Department of Transportation [Caltrans] 2013).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this analysis are the one-hour equivalent noise level (L_{eq}) and the community noise equivalent level. The L_{max} is the maximum noise level reached during a single noise event.

The L_{eq} is the level of a steady sound that, in a specific time period and at a specific location, has the same A-weighted sound energy as the time-varying sound. For example, $L_{eq}(1h)$ is the equivalent noise level over a 1-hour period and $L_{eq}(8h)$ is the equivalent noise level over an 8-hour

period. $L_{eq}(1h)$ is a common metric for limiting nuisance noise, whereas $L_{eq}(8h)$ is a common metric for evaluating construction noise.

Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dBA for each doubling of distance.

Traffic noise is not a single, stationary point source of sound. Over some time interval, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is 3 dBA for each doubling of distance.

The *Yuba County 2030 General Plan Public Health & Safety Element* (Yuba County 2011a) contains the following policies related to noise that are relevant to the Proposed Project:

- **Policy HS10-4:** If existing noise levels exceed the maximum allowable levels listed in Table Public Health & Safety-2 [see **Table 10**], projects are required to incorporate mitigation to reduce noise exposure in outdoor activities areas to the maximum extent feasible and include mitigation to achieve acceptable interior levels, as defined in Table Public Health & Safety-1.
- **Policy HS10-7:** New developments shall ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers’ specifications.

Table 10. Maximum Allowable Noise Exposure from Non-Transportation Noise Sources at Noise-Sensitive Land Uses

Noise Descriptor	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)
Hourly Energy-Equivalent Noise Level (Leq)	60 dBA	45 dBA
Maximum Noise Level (Lmax)	75 dBA	65 dBA
<p><u>Notes:</u> dBA=A-weighted decibel Each of the noise levels shall be lowered by 5 dBA for simple tone noises, noises consisting primarily of speech, music or for recurring impulsive noises. These noise-level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings). Noise-sensitive land uses include schools, hospitals, rest homes, long-term care facilities, mental care facilities, residences, and other similar land uses. Source: Yuba County 2011a</p>		

Section 8.20.310 of the Yuba County Code states that it shall be unlawful for anyone within 500 ft of a residential zone to operate construction equipment between 10:00 p.m. and 7:00 a.m. in such a manner that a reasonable person of normal sensitiveness residing the area is caused discomfort or annoyance unless a permit has been granted.

Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of hertz (Hz). The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most

groundborne vibration that can be felt by the human body is from a low of less than 1 Hz up to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise may result in adverse effects, such as building damage, when the originating vibration spectrum is dominated by frequencies in the upper end of the range 160 to 200 Hz). Vibration may also damage infrastructure when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (Federal Transit Administration [FTA] 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean square (RMS) vibration velocity. Particle velocity is the velocity at which the ground moves. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the greatest magnitude of particle velocity associated with a vibration event. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2013).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018). Vibration significance ranges from approximately 50 VdB (the typical background vibration-velocity level) to 100 VdB, the general threshold where minor damage can occur in fragile buildings (FTA 2018). The approximate threshold for human perception is 65 VdB.

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with each of these uses. The Yuba County General Plan defines noise sensitive land uses as: residences, schools, hospitals, rest homes, long-term medical or mental care facilities, and similar uses (Yuba County 2011a). Noise sensitive receptors closest to the communications site include houseboats and liveaboards in the Emerald Cove Marina approximately 2,000 ft east of the site. Houseboats and liveaboards in the Emerald Cove Marina are also the nearest receivers to the passive repeater site and are approximately 3,000 ft north of the site. Therefore, this noise analysis is based on the distance to the nearest receivers from the communication site. The nearest residential community is Dobbins which is approximately four miles west of the project site on Marysville Road.

Existing Noise Levels

In order to determine existing noise levels, one 15-minute noise measurements was recorded near the project site between 7:44 and 7:59 a.m. on August 17, 2018 using an ANSI Type II integrating

sound level meter. The noise measurement was taken near the parking lot off Road 169 on the western side of the Emerald Cove Marina. shows the noise measurement location.

Table 11 summarizes noise measurement activities and results. Average noise levels are provided in L_{eq} for a 15 minute measurement period ($L_{eq}[15]$).

Table 11. Noise Monitoring Results

Measurement Number	Measurement Location	Sample Times	Distance to Primary Noise Source	$L_{eq} [15](dBA)$	$L_{max} (dBA)$	$L_{min} (dBA)$
NM 1	Parking lot west of Emerald Cove Marina	7:44 – 7:59 a.m.	300 feet ¹	62.7	82.1	45.9

Notes:

dBA=A-weighted decibel

¹ Distance to Marysville Road

See Appendix C for noise monitoring data.

Source: Rincon Consultants, Inc. field measurements on August 17, 2018, using an ANSI Type II sound level meter.



Figure 5. Noise Measurement Location

Discussion

a) Construction Noise

The Proposed Project would generate temporary construction noise that would exceed existing ambient noise levels in the project vicinity. In order to determine existing noise levels, one 15-minute noise measurement was recorded in the project vicinity using an ANSI Type II integrating sound level meter, as shown in

Table 11.

Noise impacts associated with construction activity are a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. The nearest noise sensitive receptors, houseboats and livaboards, are located approximately 2,000 ft east of the communications site in Emerald Cove Marina.

Construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment and 3 dBA per doubling of distance for mobile equipment. The model does not take into consideration topographic variation of the area; as such, it provides more conservative results. Construction equipment for each phase of construction was provided by the project applicant as described in Section 2, Project Description. Using RCNM, construction noise levels were estimated for the nearest noise sensitive receiver at 2,000 ft.

Table 12 shows the maximum expected noise levels at the nearest sensitive receiver based on the combined construction equipment anticipated to be used concurrently during each phase of construction as modeled in RCNM.

Table 12. Construction Noise Levels by Phase.

Construction Phase ¹	Equipment	Construction Noise Level (dBA L_{eq}) at 2,000 feet	Construction Noise Level (dBA L_{max}) at 2,000 feet
Mobilization	Grader, Loader	50.0	53.0
Clearing and Grubbing	Grader, Loader	47.9	48.7
Construction	Excavator, Loader, Crane	47.9	48.7
Retrofit	Excavator, Loader, Crane	47.9	48.7
¹ Demobilization phase was not modeled because the phase would not involve use of construction equipment. L_{eq} = equivalent noise level Source: For RCNM results see Appendix D			

As shown in Table 12, construction noise could reach as high as approximately 50 dBA L_{eq} and 53 dBA L_{max} at the nearest noise sensitive receiver. This exceeds the Yuba County nighttime exterior noise standards for sensitive land uses of 45 dBA L_{eq} , but does not

exceed the daytime exterior noise standard of 60 dBA L_{eq} or the County's maximum noise level of 65 dBA at sensitive land uses. However, as described in 2.3.9, Avoidance and Minimization Measures, construction would occur Monday through Friday from 7:00 a.m. to 6:00 p.m., excluding legal holidays. Therefore, project construction would not occur during nighttime and thus would not exceed nighttime noise levels at the nearest receivers. Construction noise would be **less than significant**.

Operational Noise

Operation of the Proposed Project involves installation of an 80 kW back up emergency generator that would be powered by a propane engine. Operation of the passive receiver and other proposed operational equipment would not emit substantial noise. Therefore, generator noise is analyzed as the single operational noise source on the project site. The generator is expected to operate approximately 240 hours annually and per FRAQMD Rule 3.22, it was conservatively assumed that the generator would be operational for up to 100 hours annually for maintenance and testing purposes (FRAQMD 2020c). Therefore, the generator would operate 340 hours per year.

The Yuba County Noise Ordinance does not contain an exemption for operation of emergency generators. Therefore, generator operation would result in a significant noise impact if noise would exceed 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. or 45 dBA L_{eq} from 10:00 p.m. to 7:00 a.m. at the nearest noise sensitive receivers. The generator may operate during nighttime hours under emergency conditions, therefore 45 dBA L_{eq} is used as the noise threshold for this analysis.

A sample 80 kW propane powered emergency generator would be a Standby Generator 80kW. See **Appendix E** for generator manufacturer specifications. The Standby Generator 80kW has a sound power level of 74 dBA at 23 ft (7 meters). The nearest noise sensitive receivers are located approximately 2,000 ft east of the communications site in Emerald Cove Marina. At 2,000 ft the emergency generator would be approximately 26 dBA. Generator operation would not exceed 45 dBA or be audible at surrounding receivers.

The Proposed Project would not result in additional vehicle trips to the project site. The site would remain unstaffed and the crew that currently reports to the water treatment plant would provide maintenance. Therefore, there would be no increase in noise from vehicle trips on area roadways that may be audible to nearby noise sensitive receptors. Operational noise impacts would be **less than significant**.

Vegetation maintenance would occur using handheld tools and would not result in any noise sources. As such maintenance would have **no impact** on noise and it is not discussed further in this section.

- b) Construction activity associated with the Proposed Project would be a temporary source of groundborne vibration in the project vicinity. Similar to construction noise, vibration levels would be variable depending on the phase of construction and related equipment use. Vibratory construction equipment used during project construction would include a small excavator. An excavator is of similar size and type as a small bulldozer, which has a vibratory level of 0.003 in/sec PPV or 58 VdB at 25 ft (FTA 2018). This would equate to

a vibration level of less than 0.001 in/sec PPV and less than 1 VdB at 2,000 ft, the distance to the nearest sensitive receiver and structure. At 2,000 ft, vibration levels would be lower than the structural damage impact threshold to residential structures of 0.2 in/sec PPV and human perception threshold of 65 VdB. The Proposed Project would not involve long-term use of any equipment or process that would result in potentially substantial levels of groundborne vibration. Impacts would be **less than significant**.

- c) The project site is not located within an airport land use plan, within two miles of a public airport or public use airport, or in the vicinity of a private air strip. There are no airports in the vicinity of the Proposed Project. The closest airports to the project are two general-aviation airports (Brownsville Aero Pines Airport and Old Aerodome), located approximately 16 miles northwest and 17 miles southwest of the project site, respectively. Therefore, the Proposed Project would have **no impact** and would not subject people to excessive noise levels from airports.

3.14 Population/Housing

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Setting

The Proposed Project is located in a rural area of unincorporated Yuba County. Scattered rural residences are located along Marysville Road to the east of New Bullards Bar Reservoir. The community of Dobbins is the residential area approximately four miles west of the project area on Marysville Road.

3.14.2 Discussion

- a, b) The Proposed Project would not include construction of new housing or commercial businesses. Construction would be short-term and would not result in construction employees relocating to the project vicinity. No additional permanent staff would be needed for project operation. The Proposed Project would not remove any homes or result in displacement of people. Therefore, the Proposed Project would have **no impact** on population growth, displacement of existing housing, or displacement of people.

3.15 Public Services

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Setting

The Proposed Project sites are located in the jurisdiction of the Dobbins-Oregon House Fire District. Law enforcement services for the project area are provided by the Yuba County Sheriff's Department from the Brownsville office. The nearest school is the Dobbins Elementary School in Dobbins.

3.15.2 Discussion

- a) The Proposed Project involves temporary construction activities, vegetation maintenance, and permanent placement of a new telecommunications infrastructure on a relatively small area of public lands, which would not directly or indirectly affect existing public services, nor require alteration or provision of additional public services. Therefore, the Proposed Project would have **no impact** on fire and police protection services, schools, parks, or other public facilities.

3.16 Recreation

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.16.1 Setting

The Proposed Project area is located near the Cottage Creek boat launch area that is a heavily used recreation area at the New Bullards Bar Reservoir. Recreational facilities within and around the reservoir include the boating, swimming, fishing, camping, and non-motorized trail uses.

The Emerald Cove marina is located directly adjacent to the Proposed Project site and provides visitor services at the Cottage Creek Boat launch ramp. The marina is operated by a private company under lease from YCWA. Various types of watercraft utilize the marina including; houseboats, personal watercraft, pontoon boats, fishing boats, pleasure cruisers, sailboats, kayaks, canoes, row boats, rafts, pedal boats, and float tubes. The marina consists of a floating general store and snack bar, 30 overnight boat slips, 80 mooring buoys, gasoline pumps, and a floating dump station. The Emerald Cove Marina has an expansive parking lot with lights and restrooms.

3.16.2 Discussion

a,b)The Proposed Project involves temporary construction activity, maintenance, and permanent placement of new telecommunications infrastructure on a relatively small area of public lands, which would not directly or indirectly affect the recreational resources of Emerald Cove Marina, the Cottage Creek boat launch area, or other recreational uses on and around New Bullards Bar Reservoir. Although a small area of the Emerald Cove Parking lot would be used as part of the construction equipment staging area this would not impact recreational activities. The parking lot is expansive, and the staging area would be located close to the water treatment plant which is the parking area furthest from the Cottage Creek boat launch area. Because there is extensive parking in the parking lot, people would be able to continue to utilize the Emerald Cove Marina throughout the duration of the construction period.

During the maintenance and operation phases there would be no changes to recreational resources relative to existing conditions. Therefore, the Proposed Project would have a **less than significant impact** on the physical deterioration of existing neighborhood or regional parks or other recreational facilities, or the need for the construction or expansion of recreational facilities.

3.17 Transportation

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.17.1 Setting

The project site is located within the area covered by the Yuba County 2030 General Plan. Traffic and transportation are discussed in the Community Development Element of the General Plan (Yuba County 2011a), which includes the following policies that are relevant to the Proposed Project:

- **Policy CD16.4:** On County roads in rural areas, Level of Service “D” shall be maintained, as feasible, during the p.m. Peak Hour.
- **Policy CD16.11:** The County would analyze and mitigate transportation impacts in CEQA documents according to their relative increase in vehicular travel demand.

Major roadways within the project vicinity include the following facilities:

- Marysville Road is a paved two-lane road that leaves State Route 49 and travels west and provides access to New Bullards Bar Reservoir and the Emerald Cove Marina parking lot. It also provides access to the roughly graded dirt access road that would be used to reach the passive repeater site. In the project vicinity Marysville Road provides one travel lane in each direction. Marysville Road can be accessed from State Route 20 or State Route 49. The annual average daily traffic volume on Marysville Road ranges from 5,520 vehicles State Route 20 to 663 vehicles near State Route 49 (Yuba County 2011b).
- State Route 20 is a regional east-west highway extending west from Marysville through the Yuba County foothills and into Nevada County. State Route 20 is over 24 miles from the project site. In the vicinity of the project State Route 20 provides one travel lane in each direction. The annual average daily traffic volume on State Route 20 ranges from 8,000 vehicles at Marysville Road to 9,000 vehicles at the Yuba/Nevada County line (California Department of Transportation 2017).

- State Route 49 is a regional north-south highway extending from the Amador/El Dorado County line traveling north in El Dorado County, traversing Placer, Nevada, Yuba, and Sierra Counties, and ending at the Sierra/Plumas County line north of the City of Loyalton. State Route 49 is over 13 miles from the project site. In the vicinity of the project State Route 49 provides one travel lane in each direction and is a recreational route used by tourists to access local recreational activities. The annual average daily traffic volume on State Route 49 at Marysville Road is 1,600 vehicles (California Department of Transportation 2017).

The nearest bicycle facilities are a Class II bicycle lane located along Marysville Road that runs from Spring Valley Road to Bullards Bar Dam and a Class III bicycle route that runs on Marysville Road from Bullards Bar Dam to State Route 49. The nearest bus route is the Foothills Route, which offers round trip service from Challenge, Brownsville, and Dobbins to Marysville and points in between. The bus route is more than six miles from the project site (Yuba County 2011a).

There are no airports in the vicinity of the Proposed Project. The closest airports to the project site are two general-aviation airports (Brownsville Aero Pines Airport and Old Aerodome), located approximately 16 miles northwest and 17 miles southwest of the site, respectively.

3.17.2 Discussion

- a) During construction of the Proposed Project, there would be a minor temporary increase in construction-related traffic from materials delivery and construction workers traveling to and from the project site. During the most intensive portion of the construction period two to three additional construction-related trips would be required. The primary roadways that would be used to access the Proposed Project sites would be Marysville Road via State Routes 20 and 49. These State Routes are operating at acceptable levels of service (Yuba County 2011b). The addition of construction-related vehicle trips would be relatively small compared to existing volumes and temporary and would not cause any level of service thresholds to be exceeded nor result in a substantial increase in overall traffic volumes.

The same staff that works at the water treatment facility would be responsible for maintenance (i.e., vegetation maintenance and propane tank maintenance) and operations. Maintenance and operations would occur while staff were already onsite to work on the existing infrastructure such as the water treatment plant. As such, no additional vehicle trips would be necessary for the maintenance and operational phases of the Proposed Project. Thus, the Proposed Project would not substantially affect the capacity, congestion patterns, or traffic circulation on affected roads. Consequently, the temporary construction-related trips for the Proposed Project would not substantially affect the capacity or congestion patterns on affected roads.

The Proposed Project is located 0.1 miles from the nearest bicycle or pedestrian facilities. Construction equipment would utilize the same roadways as other vehicles and would turn from Marysville Road to County Road 169 or the roughly graded dirt access road to access the construction sites. This would require the construction equipment and trucks to cross the bicycle lane when turning onto County Road 169 or the dirt access road. Following traffic safety laws, the construction equipment/trucks would yield to bicyclists before

turning and would not have either a permanent or temporary effect on the performance or safety of the bicycle facilities. The proposed construction would not affect any sidewalks, hiking trails or other pedestrian facilities.

Therefore, the Proposed Project would have a **no impact** on a program plan, ordinance or policy addressing the local circulation system, including transit, roadway, bicycle, and pedestrian facilities.

- b) Section 15064.3 of the State CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Per Section 15064.3, generally analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. The VMT refers to the amount of distance of automobile travel attributable to a specific project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in Section 15064.3(b)(2) regarding roadway capacity, a project's effect on automobile delay does not constitute a significant environmental impact under CEQA. The total VMT attributable to the Proposed Project is estimated to be 1,960 miles all from project construction activities (Appendix B).

The Proposed Project would not create new developments or other infrastructure that would result in additional VMTs relative to existing conditions. Although the construction component of the Proposed Project would cause additional VMTs for four months, these VMTs would be temporary. Further, the temporary additional VMTs would not substantially affect transit and non-motorized vehicle travel or regional VMTs. As such, the Proposed Project would have a **less than significant impact** on the potential to conflict with or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision(b).

- c) The Proposed Project would not make any temporary or permanent changes to the roads in the vicinity of the project site. Further, during the construction period the construction equipment would not be working on roadways. Therefore, the Proposed Project would have a **less than significant** impact on increased transportation hazards due to a geometric design feature or incompatible uses.
- d) Emergency access to Emerald Cove Marina would continue to be provided via Marysville Road and County Road 169 during the entire Proposed Project construction period. As such the Proposed Project would have **no impact** on emergency access.

3.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Listed or eligible for listing on the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.18.1 Setting

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” Assembly Bill 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

To initiate the AB 52 consultation process, tribes must submit a written request to a lead agency to be informed through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe (PRC Section 21080.3.1[b]). YCWA is thus responsible for notifying and responding to any requests received in writing from geographically affiliated tribes for consultation regarding the potential of the project to impact tribal cultural resources.

YCWA is currently progressing with the AB52 stipulations. In addition, informal outreach letters were sent on July 10, 2020 to five Native American contacts to inquire about cultural resources in the area. Follow-up phone calls to these contacts were made on July 13, 2020.

3.18.2 Discussion

- a, b) Based on the negative results of the California Historic Resources Information System search and Native American outreach efforts, as well as the negative findings of the field

survey, there is no indication that the Proposed Project contain any Native American resources eligible for listing in the California Register of Historical Resources or local register nor does it contain any resources determined by the lead agency to be significant tribal cultural resources. Nevertheless, it is possible that construction activities have the potential to encounter buried archaeological resources that could be considered tribal cultural resources if they are of Native American origin. Buried tribal cultural resources may include but are not limited to deposits of stone, bone and shell artifacts, dark gray “midden” sediments, or cemeteries. Therefore, the impact is considered potentially significant. Implementation of **Mitigation Measure TCR-1** would reduce impacts to tribal cultural resources to a **less than significant** level.

MITIGATION MEASURE TCR-1. INCIDENTAL DISCOVERY OF TRIBAL CULTURAL RESOURCES.

If any resources of Native American origin are discovered once ground-disturbing activities are underway, the YCWA shall contact local Native Americans to consult on the find. If the find is determined to be a tribal cultural resource, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation determined in consultation with local Native Americans shall be made available. Work may continue on other parts of the project site while tribal cultural resource mitigation takes place on-site.

3.19 Utilities/Service Systems

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.19.1 Setting

No developed stormwater drainage utilities are located in the area. The nearest solid waste disposal transfer station is the Recology Yuba-Sutter facility near Marysville approximately 35 miles to the west of the project site.

The current communication pathway used for YCWA operational staff to monitor daily operations is from an existing microwave dish located on NBBD to a repeater located on Oregon Peak.

The electrical service to the water treatment plant are from PG&E owned two 15KVA pole mounted transformers in open delta creating a 120/240V three phase overhead service drop at an existing service entrance panelboard located on the south east corner of the WTP. Also, another PG&E owned pole mounted transformer feeds the existing lighting loads in the existing marina parking lot.

3.19.2 Discussion

- a) The Proposed Project does not involve any changes to wastewater, stormwater drainage, or natural gas in the project area, or involve any changes in wastewater disposal activities. Further, the Proposed Project would not generate wastewater that would require a wastewater treatment facility or involve any changes in wastewater disposal activities.

However, the purpose of the Proposed Project is to construct a new microwave communications pathway in order to respond to a FERC recommendation to upgrade the communication system at the NBBD to ensure constant connectivity and better coverage relative to YCWA's ability to send and receive communications from the NBBD. As part of the improvements to telecommunications services in the project area YCWA will retrofit the electrical infrastructure at the telecommunications tower and existing water treatment plant site and combine the multiple power feeds into one service under one meter.

These improvements would improve telecommunications in the area and ultimately improve YCWA's ability to respond to any dam emergencies. These improvements would not cause any adverse environmental effects. The project itself would not require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage or natural gas. As such the Proposed Project would have a **less than significant** impact on the environment from the improvements in the telecommunication facilities and electrical power.

- b) No new water services are required as part of the project. Therefore, the Proposed Project would have **no impact** on the need for new or expanded water supplies to serve the project.
- c) As described above in "b," the Proposed Project does not require water service, thus the project would not involve any changes to wastewater services in the project area. Therefore, there would be **no impact** on wastewater treatment plant capacity.
- d,e) Due to the size of the Proposed Project the amount of construction waste will be minimal. No solid waste would be generated from the operation or maintenance of the Proposed Project. Any excess excavated material would be disposed of at a YCWA-maintained soil disposal site or the Recology Yuba-Sutter transfer station and landfill. In addition to any

trash or refuse produced by construction personnel, the disposal of any solid wastes would comply with applicable federal, state, or local regulations for solid waste disposal. The Proposed Project would not impair the attainment of solid waste reduction goals. Therefore, this impact would be **less than significant** on compliance with statutes and regulations related to solid waste.

3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project ...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.20.1 Setting

As described above in Section 3.9, Hazards and Hazardous Materials, the YCWA portion of the project site is in an area identified by the California Department of Forestry and Fire Protection with very high fire hazard severity (CalFire 2019), which is the highest fire hazard rating. Two large fires (Williams and Pendola) have occurred in Yuba County. Both of these fires destroyed over 100 homes. To prepare the County for future wildland fires the Yuba Watershed Protection & Firesafe Council developed the *Yuba Foothills Community Wildfire Protection Plan* (Yuba County 2014). A component of this document is designed to assist public agencies in making valid and timely decisions for wildfires and evacuation.

3.20.2 Discussion

- a) As described above in Section 3.17, *Transportation*, the temporary construction-related trips for the Proposed Project would not substantially affect the capacity or congestion patterns on affected roads as there would only be two to three construction-related trips during peak construction. Emergency access to Emerald Cove Marina would continue to be provided via Marysville Road and County Road 169 during the entire Proposed Project. As such the Proposed Project would not interfere with *The Yuba Foothills Community*

Wildfire Protection Plan, or any other emergency response or emergency evacuation plan. Therefore, there would be a **less than significant** impact on an adopted emergency response plan or emergency evacuation plan.

- b) The telecommunications site is in a gravel lot with little to no vegetation in the immediate proximity of the proposed work. However, construction equipment would run on fossil fuels and could potentially generate sparks. During the operational phase, the new microwave tower and the telecommunications building would be powered by an underground electrical line. The underground nature of this utility line would reduce potential for accidental ignition. An 80-kW double walled propane generator would be in place as an emergency power source. The doubled wall of the propane tank will reduce potential ignition from operation of the propane tank. Appropriate defensible space would continue to be maintained around the telecommunications site to further reduce the risk of wildfire.

The passive repeater site is located partway up a hillside on YCWA owned property. Construction equipment would run on fossil fuels and could potentially generate sparks. However, the equipment would generally operate on bare soils. The only maintenance at this location would be annual vegetation removal, which would occur by hand. Maintenance vehicles would access the site via the existing access road which would reduce potential for sparks to come into contact with vegetation. Operations of the passive repeater would not rely on electricity or fossil fuels.

To reduce wildfire risk from construction at both sites, and operations and maintenance activities at the telecommunication site, and maintenance activities at the passive repeater site (i.e., vehicle access to the site) the Proposed Project includes AMM 4. This avoidance and minimization measure requires development of a fire plan that includes preventative measures, emergency procedures to be followed, current emergency telephone numbers, and an area map to ensure there is no additional risk for starting a wildfire from construction, maintenance, or operations. In addition, construction and maintenance vehicles would be equipped with fire extinguishers to address any possibility of a small fire that could be ignited by construction activities.

Based on the above considerations, the Proposed Project would have a **less than significant** impact on exacerbating wildfire risks and thereby, creating pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

- c) The Proposed Project would improve existing infrastructure at the telecommunications site by routing the existing overhead electrical feed underground. The underground nature of the electrical feed would decrease potential for the current and new infrastructure to exacerbate fire risks in the area.

Appropriate vegetation management would be conducted around the passive repeater to further reduce the risk of wildfire. Further, the new infrastructure would be constructed, operated and maintained in accordance with CAL FIRE's PRC 4290-4291 State Responsibility Area (SRA) Fire Safe Regulations. Access for operations and maintenance of the passive repeater would be via existing roads and the site would require few vehicle

trips per year for inspections and maintenance. As described in detail above in “b” measures are in place to ensure that maintenance and operations of the Proposed Project would not exacerbate fire risk or cause temporary or ongoing impacts to the environment associated with wildfire. Therefore, the Proposed Project would have a **less than significant** impact on exacerbating fire risk or other temporary or ongoing impacts to the environment.

- d) As discussed above in section 3.7, *Geology and Soils*, the Proposed Project sites are located on soils that are generally considered stable. Most of the construction would occur at the telecommunications site which is on the flat surface of the existing water treatment plant yard. All temporary disturbances would be restored to pre-project conditions. Although the long-term presence of new structures would cause some additional compaction at the surface, this generally would not alter the gravel or underlying soils of the Proposed Project site. Locating the structures in the water treatment plant yard would represent little change from existing conditions.

The repeater tower with passive repeater would be installed on a moderately steep slope but is not located near any other structures. The repeater tower has two small footings (i.e., approximately 2 ft in diameter) that would be placed into the ground. The remaining part of the structure would be elevated above the ground. Thus, drainage would continue to occur under most of the passive repeater structure since it is elevated off the ground.

All temporary disturbance areas would be returned to pre-project conditions. While no known risks associated with post-fire conditions have been identified, the passive repeater site is in an area of steep topography and is in an area where a wildfire and subsequent conditions could cause some level of risk to downslope areas. Project engineers have incorporated the geotechnical evaluation results into the design of the repeater tower with passive repeater and would ensure that permanent placement of the structure would not lead to any potential increases in landslides, slope instability, or substantial drainage changes. Thus, during the maintenance and operational phases, the repeater tower with passive repeater would not cause increases in landslides or slope instability. As such, the Proposed Project would have a **less than significant** impact on risks to people or structures as a result of runoff, post-fire slope instability, or drainage changes.

3.21 Mandatory Findings of Significance

Does the project...	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.21.1 Discussion

- a) Based on the information provided in this Initial Study, including the mitigation measures, the Proposed Project would not substantially degrade the overall quality of the environment in the project area.

With respect to terrestrial wildlife as discussed in Section 3.4, *Biological Resources*, implementation of the Proposed Project has the potential to result in temporary construction-related disturbance to potential habitats in the project area and wildlife species if present during the time of construction. However, feasible project-specific mitigation measures are identified to minimize and avoid the potential adverse effects. Although presence of the new telecommunications infrastructure would be permanent, it would not cause significant impacts to wildlife. As described in Hydrology and Water Quality the project would also cause less than significant impacts to aquatic species.

The majority of the impact determinations are either no impact or less than significant. For those impacts where the potential for significant impacts exists, the implementation of mitigation measures would ensure that the Proposed Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Consequently, this impact is considered **less than significant**.

- b) Cumulative environmental effects are multiple individual affects that, when considered together, would be considerable or compound or increase other environmental impacts. Individual effects may result from a single project or a number of separate projects and may occur at the same place and point in time or at different locations and over extended periods of time.

The Proposed Project would result in a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the Proposed Project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the Proposed Project would make a considerable contribution to the effect. The standards used herein to determine a considerable contribution are that either the impact must be substantial or must exceed an established threshold of significance.

The Proposed Project would have no impact on Agricultural and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing, or Public Services. As such, there would be no cumulative effects to these resource categories.

- c) Temporary construction activities, operations, and maintenance of the Proposed Project would cause less than significant impacts to Aesthetics, Air Quality, Biological Resources (with mitigation), Cultural Resources (with mitigation), Geology and Soils, Green House Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Recreation, Transportation/Traffic, Tribal Cultural Resources (with mitigation), Utilities and Service Systems, and Wildfire. Since construction activities are short-term and localized, construction activities would not combine in such a way that a significant cumulative effect could occur to these resource categories. In addition, as described in Section 2.3.9, the Proposed Project includes avoidance and minimization measures that would avoid or minimize potential contributions to cumulative environmental impacts. Presence of the new infrastructure, and the minimal additional energy load needed to maintain and operate the Proposed Project would also not contribute to significant cumulative impacts.

Consequently, the Proposed Project would not have impacts that are individually limited, but cumulatively considerable and this impact would be **less than significant**.

- d) Based on the nature and scope of the Proposed Project (i.e., temporary construction activity and establishment of a stable communication pathway) and the analysis herein, the Proposed Project would not result in any direct or indirect substantial adverse effects on human beings. The Proposed Project would result in temporary impacts to human health during project implementation, including changes to air quality as a result of ozone precursors and PM10 emissions (discussed in Section 3.3, Air Quality). These potential impacts to human beings would be temporary, have been evaluated, and found to be less

than significant. No substantial direct or indirect adverse effects on human beings would occur; the impact would be **less than significant**.

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Appendix A Proposed Project 90% Engineering Drawings



SITE NAME:

SITE ADDRESS:

12571 MARYSVILLE RD, DOBBINS, CA 95931

COUNTY:
YUBA COUNTY

ZONING:
TBD

JURIDICTION:
YUBA COUNTY

CONTACT PERSON
KYLE W. MORGADO, PE, MS
HYDRO CIVIL ENGINEER SENIOR
(530) 740-7089 OFFICE
(530) 632-7054 CELL

PROPERTY OWNER:
YUBA WATER AGENCY
1220 F ST, MARYSVILLE, CA 95901
(530) 741-5000
POC: JOHN AVILLA

PARCEL NUMBER(S):
TBD

PROJECT COORDINATES:
COMMUNICATIONS TOWER & SHELTER:
39 23' 39.72"N
121 8' 49.74"W

REPEATER SITE:
39 23' 22.20"N
121 08' 05.24"W

PROJECT DESCRIPTION:

YUBA WATER AGENCY IS PROPOSING TO INSTALL A NEW MICROWAVE PATH FROM THE EXISTING WATER TREATMENT FACILITY AT NEW BULLARD'S BAR DAM TO OREGON PEAK VIA A NEW PASSIVE REPEATER. THE COMMUNICATIONS SITE WILL CONSIST OF A NEW 40' 3 LEGGED SELF SUPPORTING TOWER AND 10' X12' COMMUNICATION SHELTER. THE PASSIVE REPEATER WILL BE A SINGLE 8'X'12 BILLBOARD TYPE REFLECTOR.

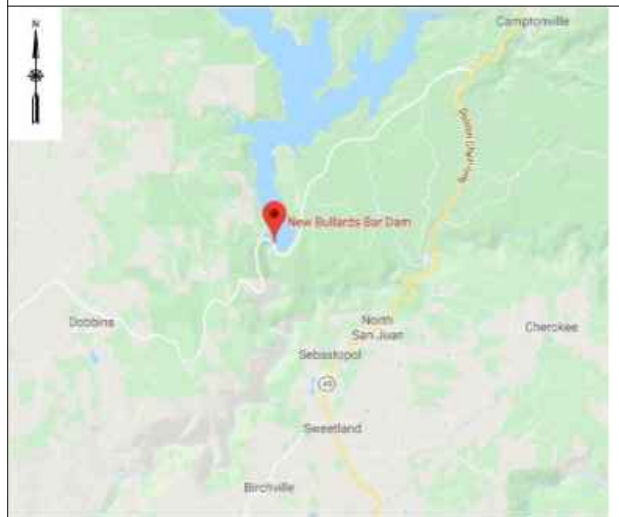
DIRECTIONS:
FROM YUBA WATER AGENCY MAIN OFFICE

1. HEAD NORTH ON F ST TOWARD 13TH ST 0.1 MI
2. TURN RIGHT ONTO 14TH ST 0.3 MI
3. TURN RIGHT ONTO B ST 0.2 MI
4. TURN LEFT ONTO 12TH ST (SIGNS FOR GRASS VALLEY) 0.9 MI
5. CONTINUE ONTO STATE HWY 20 E/LEEVE RD. CONTINUE TO FOLLOW STATE HWY 20 E 10.9 MI
6. TURN LEFT ONTO MARYSVILLE RD 11.4 MI
7. TURN RIGHT TO STAY ON MARYSVILLE RD

EST TIME: 45 MIN
EST MILEAGE: 37.1 MILES

APPROVAL:		
	SIGNATURE	DATE
GP&A	_____ JOHN RECKLIES	_____
GP&A	_____ ROBIN SMYTH	_____
YWA	_____	_____
YWA	_____	_____
CONST. MGR	_____ KYLE MORGADO	_____

PROJECT LOCATION



UTILITY PROVIDERS:
TELCO/FIBER: TBD
POWER: PG&E

UTILITY PROVIDERS:

TELCO/FIBER: TBD
POWER: PG&E

F		E		D		C		B		A			
YUBA WATER AGENCY COTTAGE CREEK COMM SITE TITLE SHEET		COMMUNICATIONS				NO.		REVISIONS		DES / DR			
		GP&A PROJECT #				A		03/05/20		WCH		J. RECKLES/RTG	
		DATE				B		12/17/20		WCH		J. RECKLES/RTG	
		DR.											
REVISION B		SHEET 1 OF 1		ENG. JHWR		DES. GPA							
CC-COM-T-1		SCALE		CHL									
		NOT TO SCALE											

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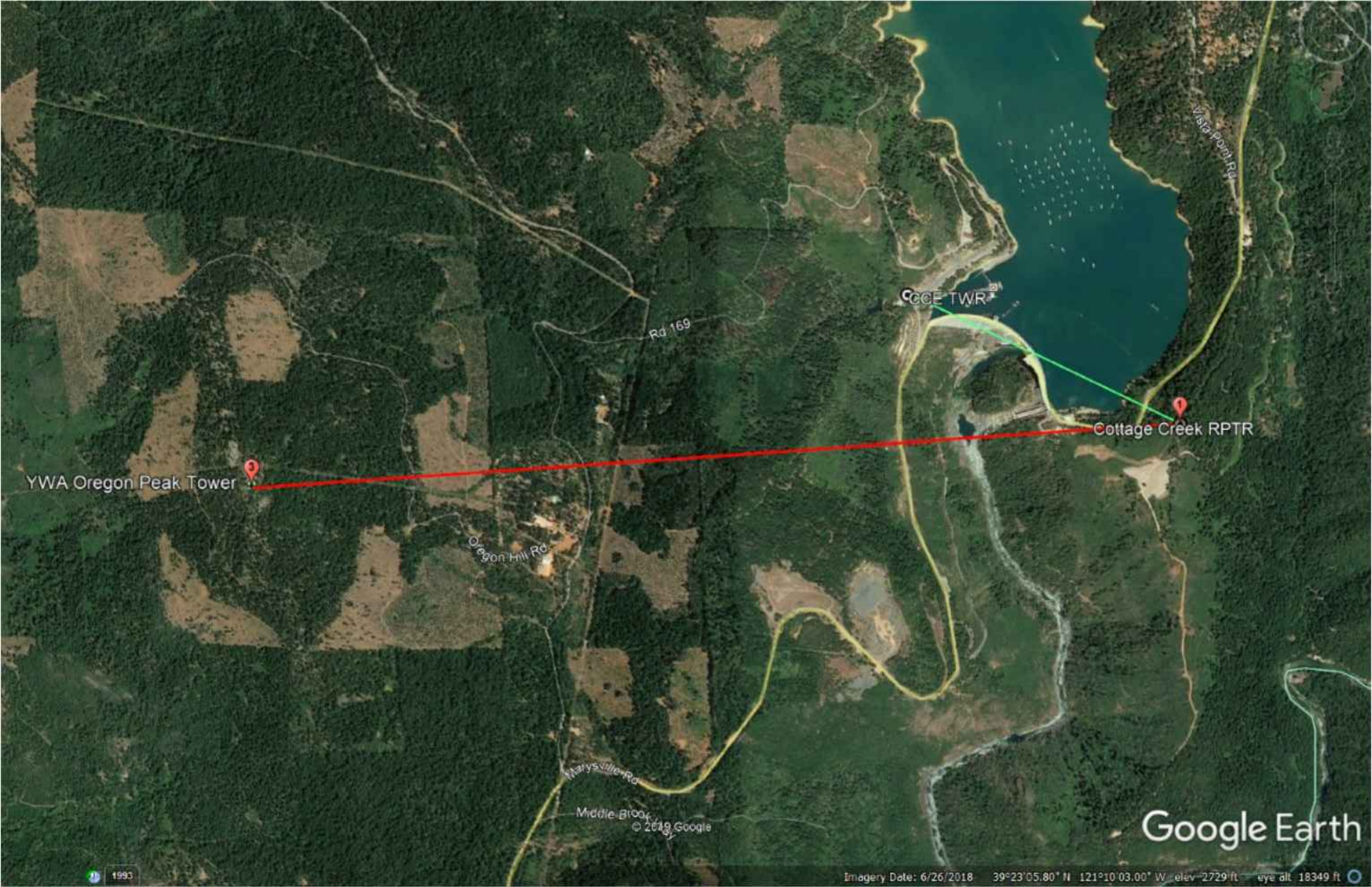
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COTTAGE CREEK MICROWAVE PATH VIEW



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ENGINEER

DES./DR.

CHECKED

APPROVED

REVISIONS

NO.

DATE

COMMUNICATIONS

GPA PROJECT # 3843

DATE 12/02/2019

ENG. JUNIAR

CR. RTG

RES. CPA

SCALE 1/4"=1'-0"

YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
HIGH LEVEL PLAN VIEW

CC-COM-01

REVISION
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REVISED:09.18.07D. HURLEY

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COTTAGE CREEK MICROWAVE PATH VIEW
NEW BULLARDS BAR DAM VIEW



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0		1	OF 1	1/4" = 1'-0"																	
YUBA WATER AGENCY		COTTAGE CREEK COMM SITE		NEW BULLARDS BAR DAM VIEW		COMMUNICATIONS		GPA PROJECT # 3843		DATE 12/02/2019		ENG JHJ		DR RTG		DES. CPA		SCALE 1/4" = 1'-0"		GPA	
CC-COM-02																					
GPA																					

REVISED 09.13.07 D. HURLEY

REVISED 08.18.07 D. HURLEY

FILE LOCATION: X:\RTG Clients\GPA\Project 3843\Cottage Creek\CC-COM-03 (RA) SH1 SAVED BY: (STERLING) 6/2/2020 5:09 PM PLOTTED BY: (STERLING) 6/27/2020 6:58 PM

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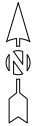
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CLIFF FACE
(APPROX.)

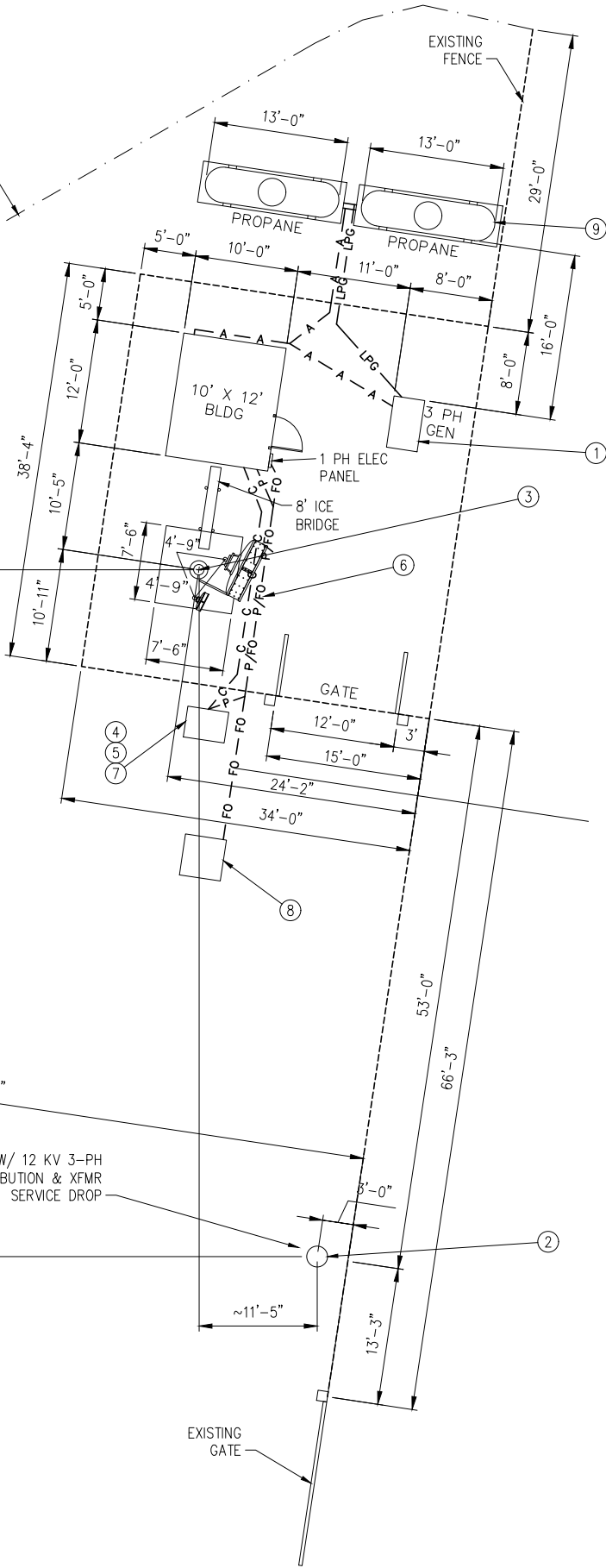
~66'-4 1/4"

75'-7 1/2"

POWER POLE W/ 12 KV 3-PH
DISTRIBUTION & XFMR
SERVICE DROP

~11'-5"

EXISTING
GATE



COTTAGE CREEK COMMUNICATIONS TOWER (NEW)

LAT: 39°23'39.72"N
LONG: 121° 8'49.74"W
ELEV: 2040 FT AMSL
TOWER HT: 40-FT AGL
LIGHTNING ROD: 46-FT AGL
TOWER TYPE: SELF SUPPORTING
TOWER: 3 OR 4-LEG LATTICE

CONDUIT LEGEND

P POWER
C CONTROL - 2"
FO FIBER OPTIC
LPG LIQ PROPANE
A ALARM

NOTES:

- 3-PH EMERGENCY GENERATOR TO BE PROVIDED BY YUBA WATER AGENCY.
- POWER POLE WITH 12KV 3-PH DISTRIBUTION AND TRANSFORMER FOR SERVICE DROP.
- 3 OR 4 LEG SELF SUPPORTING TOWER. TOWER HEIGHT WITH LIGHTNING ROD ~46FT AGL.
- 3-PH AUTOMATIC TRANSFER SWITCH (ATS) TO PROVIDED BY YUBA WATER AGENCY. (NOT SHOWN)
- DESIGN AND LOCATION OF THE ATS WILL BE PROVIDED BY YWA'S ELECTRICAL ENGINEERING FIRM.
- COMMON TRENCH - AC POWER AND FIBER DUCT.
- METER MAIN ATS (BY OTHERS). REF DWG# XXX.
- UNDERGROUND VAULT FOR FIBER/COMM CABLE (BY OTHERS). OLDCASTLE 3'x3'x4' COMMUNICATIONS VAULT.
- PROPANE SYSTEM DESIGN TO BE PROVIDED BY OTHERS.

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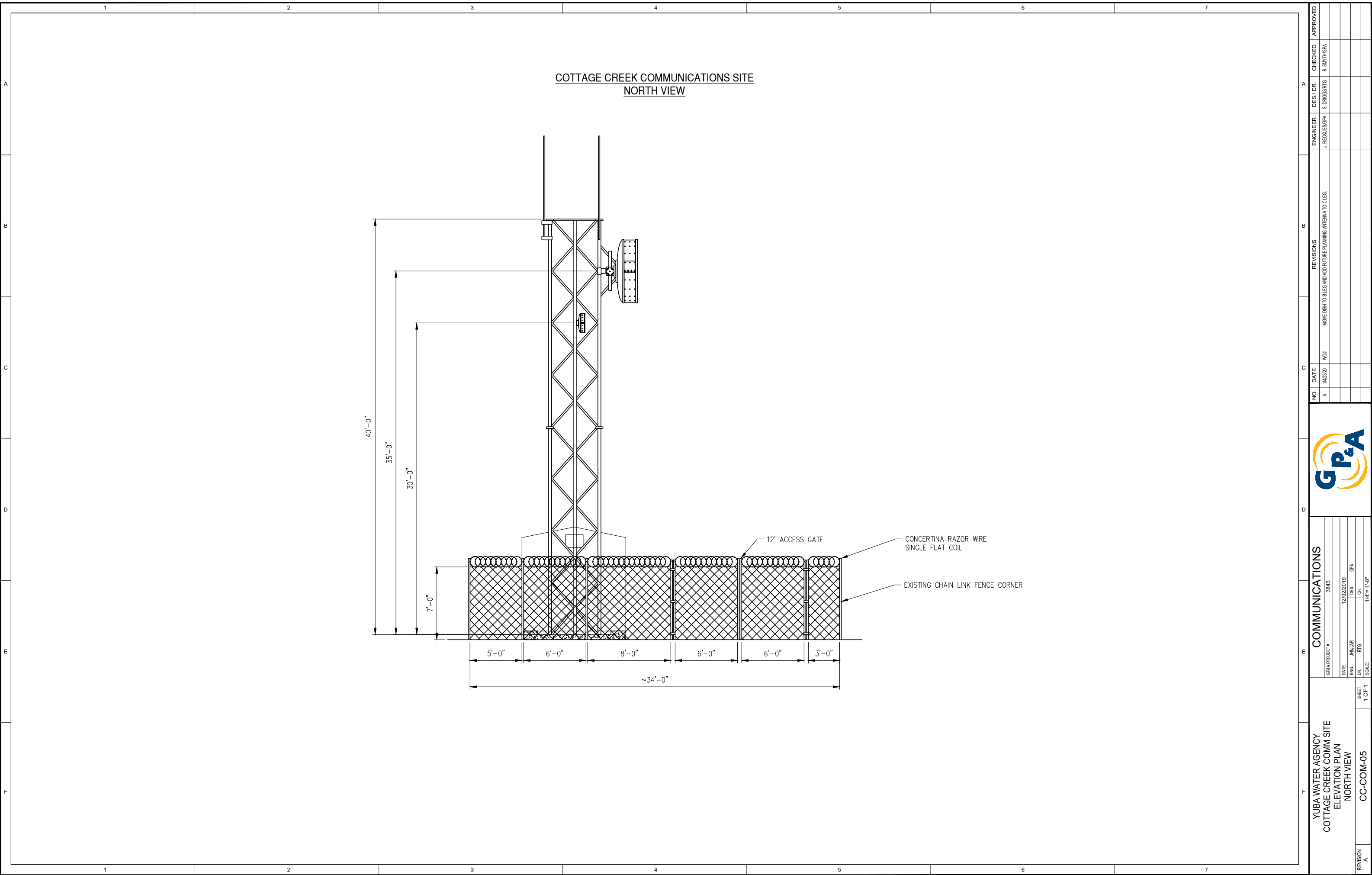
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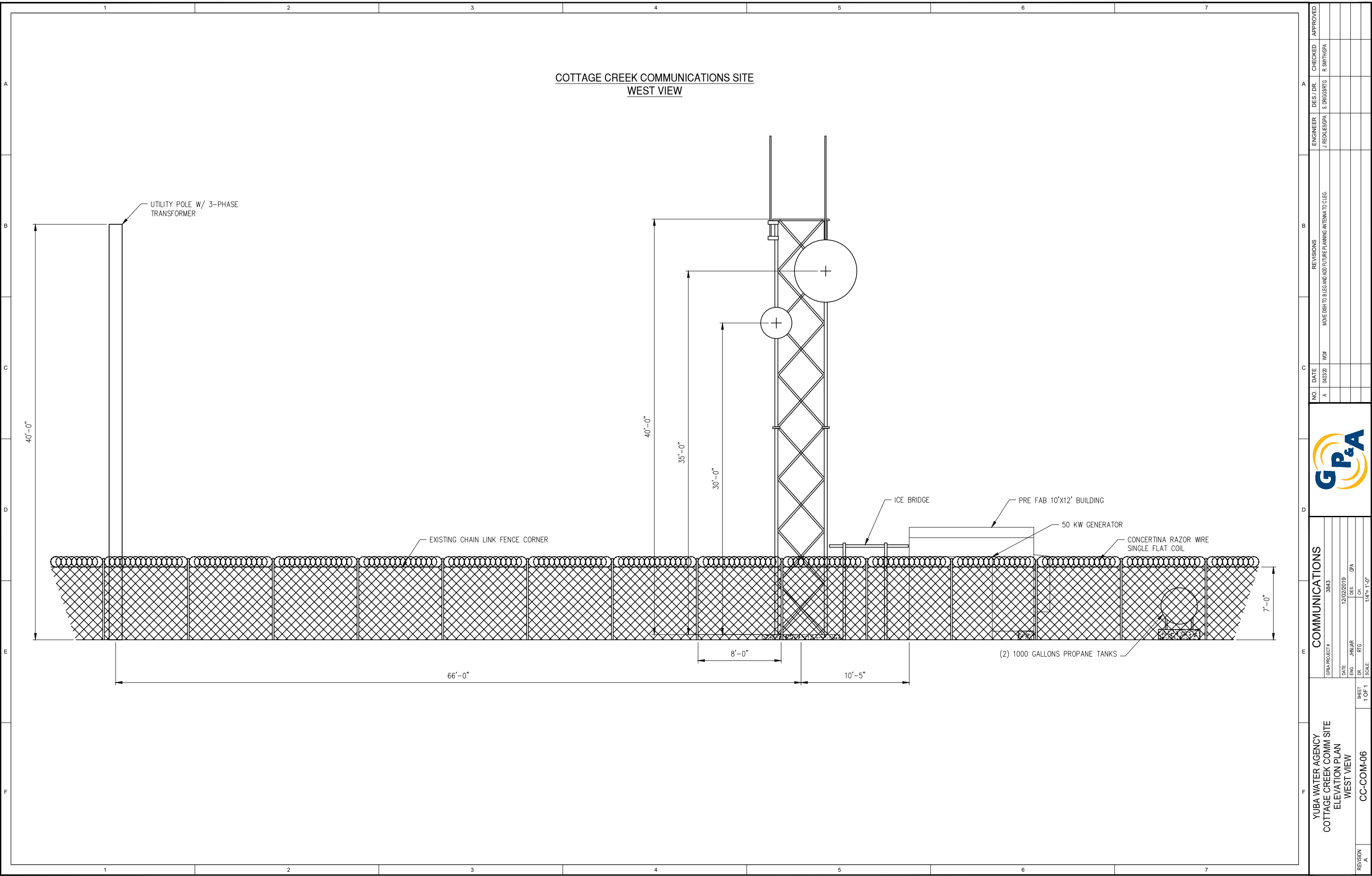
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REVISION B	YUBA WATER AGENCY COTTAGE CREEK COMM SITE SITE PLAN		COMMUNICATIONS										ENGINEER DES./DR						
	CC-COM-03		GPA PROJECT # 3843																
			DATE		12/02/2019		DES.		GPA		NO.		DATE		REVISIONS		ENGINEER DES./DR		
			ENG.		JUNJUR		DR.		RTG		A		03/05/20		ADD ADDITIONAL CONDUITS			J. RECKLES SGPA S. DRIGGS RTG	
			SHEET		1 OF 1		CH.		1/4"= 1'-0"		B		04/23/20		MOVE DISH TO B LEG AND ADD FUTURE PLANNING ANTENNA TO C LEG.				J. RECKLES SGPA S. DRIGGS RTG
			SCALE:																

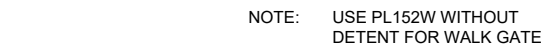


REVISED:08.18.07D. HURLEY

REVISION A		YUBA WATER AGENCY COTTAGE CREEK COMM SITE ELEVATION PLAN NORTH VIEW										COMMUNICATIONS GPA PROJECT # 3843																				NO. DATE		REVISIONS		ENGINEER		DES'S / DR.		CHECKED		APPROVED	
		SHEET 1 OF 1		SCALE: 1/4"= 1'-0"		DATE 12/02/2019		ENG. JH/LAR		DES. GPA		DR. RTG		CH.		WG#		MOVE DSH TO B LEG AND ADD FUTURE PLANNING ANTENNA TO C LEG.		J. RECKLESBGA														S. DRIGGS/RTG		R. SMITH/GPA							







7' HIGH GATE/FENCE			
POST TYPE	POST DIAMETER	FOOTING SIZE	NOTES:
LINE POST	2 1/2" O.D.	12"Ø x 39"	1. ALL POSTS: SCHEDULE 40 ASTM-F1083. 2. ALL FENCING TO BE ENGINEERED BY FENCING MANUFACTURER & APPROVED BY PROJECT MANAGER
CORNER POST	3 1/2" O.D.	18"Ø x 60"	
GATE POST	4 1/2" O.D.	18"Ø x 60"	
DOUBLE POST	BY GATE MAN.	32"Ø x 60"	

GATE LATCH

SCALE: NTS

1

GATE AND FENCING DETAIL

SCALE: 1/8"= 1'-0"

2

NOTICE

GENERAL INFORMATION FOR WORKING IN THE AREA OF ANTENNAS

- * All personnel entering this site must be authorized.
- * Obey all posted signs.
- * Assume all antennas are active.
- * Maintain minimum distance of 3 feet clearance from antennas.

SIGN NOTES:

1. SIGN MATERIAL: 18GA ALUMINUM
2. LETTERING COLOR = BLACK
3. BACKGROUND COLOR = WHITE

NOTICE



Radio Frequency Transmitters
in use beyond this point

Obey all posted signs and information for working in radio frequency environments.

In accordance with Federal Communications Commission Rules on Radio Frequency Emissions - 47 CFR, Subpart H, Part 22.

FENCING NOTES:

1. FABRIC SHALL BE CHAINLINK MINI MESH NO. 9 GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO ASTM A-392 CLASS 1.
2. TIE WIRE: MINIMUM 11Ga. GALVANIZED STEEL. PROVIDE A SINGLE WRAP OF FABRIC, TIE AT POSTS, RAILS, AND AT TENSION WIRE BY HOG RINGS. MAXIMUM SPACING 24" O.C.
3. TENSION WIRE: MINIMUM 7 Ga. GALVANIZED STEEL.
4. PROVIDE ONE 12' WIDE INTERNAL ROLLER SLIDE VEHICLE GATE. GATES SHALL BE ABLE TO LOCK.
5. GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE, AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
6. GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTOR WITH MODEL 6409, 180-DEGREE ATTACHMENT OR APPROVED EQUAL.
7. GATE LATCH: 1-3/8" O.D. PLUNGER ROD GATE DETENT TYPE CATCH.
8. A 6"x1/2" DIAMETER EYEBOLT TO HOLD TENSION WIRE SHALL BE PLACED AT LINE POSTS.
9. STRETCHER BARS SHALL BE 3/16" OR HAVE EQUIVALENT CROSS-SECTIONAL AREA.
10. ALL CAPS SHALL BE MALLEABLE IRON, DOME OR ACORN SHAPED AS REQUIRED BY PIPE SIZE.
11. OTHER HARDWARE MAY INCLUDE BUT NOT BE LIMITED TO TIE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
12. U.N.O. ALL CHAINLINK FENCING COMPONENTS MUST BE HOT DIPPED GALVANIZED.

NOT USED

SCALE: NTS

3

NOT USED

SCALE: NTS

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SIGN DETAILS

SCALE: NTS

5	FENCE NOTES
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SCALE: NTS

6

COMMUNICATIONS

YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
FENCE DETAILS

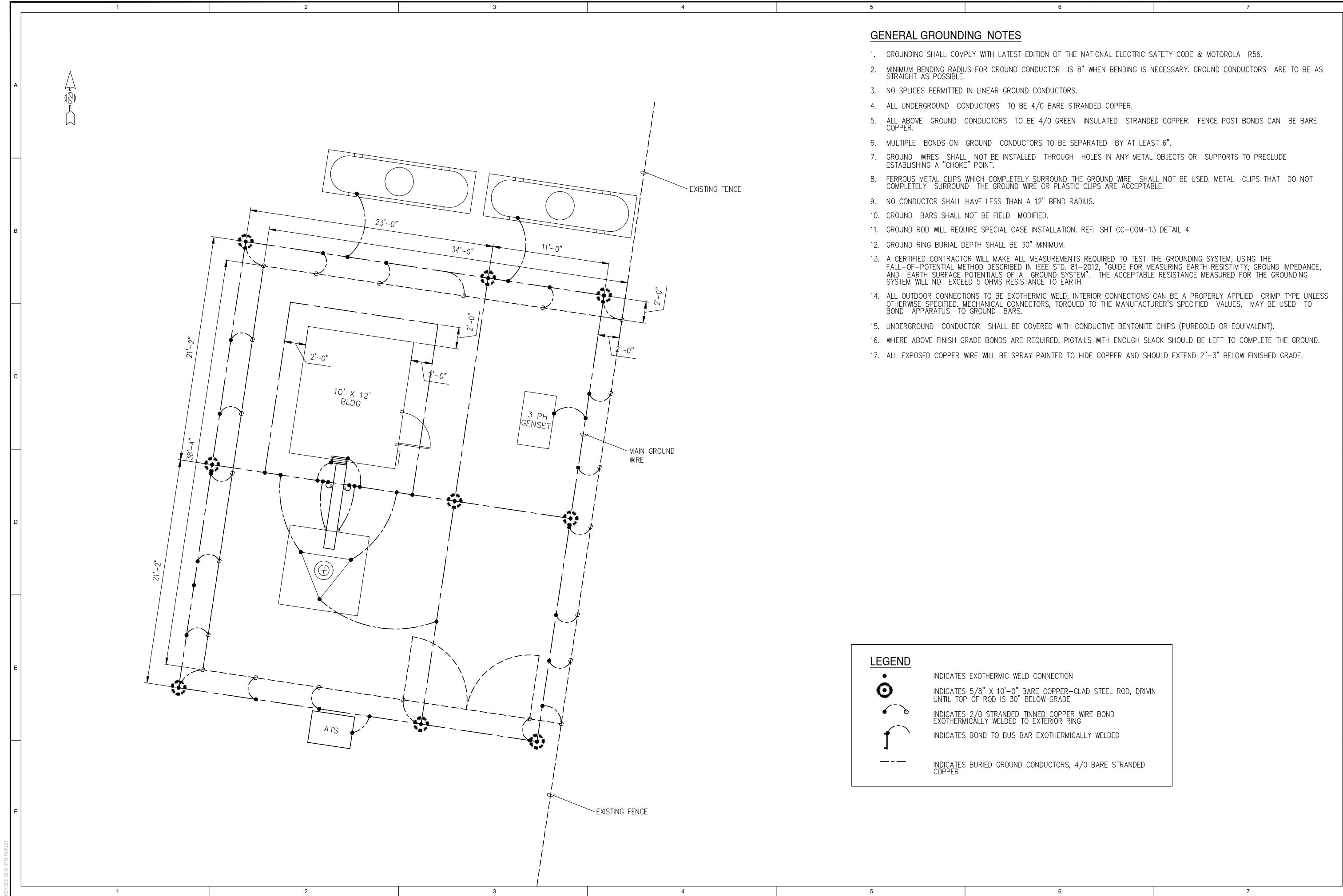
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VISION

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REVISED:08.18.07D. HURLEY

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GENERAL GROUNDING NOTES

- GROUNDING SHALL COMPLY WITH LATEST EDITION OF THE NATIONAL ELECTRIC SAFETY CODE & MOTOROLA R56.
- MINIMUM BENDING RADIUS FOR GROUND CONDUCTOR IS 8" WHEN BENDING IS NECESSARY. GROUND CONDUCTORS ARE TO BE AS STRAIGHT AS POSSIBLE.
- NO SPLICES PERMITTED IN LINEAR GROUND CONDUCTORS.
- ALL UNDERGROUND CONDUCTORS TO BE 4/0 BARE STRANDED COPPER.
- ALL ABOVE GROUND CONDUCTORS TO BE 4/0 GREEN INSULATED STRANDED COPPER. FENCE POST BONDS CAN BE BARE COPPER.
- MULTIPLE BONDS ON GROUND CONDUCTORS TO BE SEPARATED BY AT LEAST 6".
- GROUND WIRES SHALL NOT BE INSTALLED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT.
- FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUND WIRE SHALL NOT BE USED. METAL CLIPS THAT DO NOT COMPLETELY SURROUND THE GROUND WIRE OR PLASTIC CLIPS ARE ACCEPTABLE.
- NO CONDUCTOR SHALL HAVE LESS THAN A 12" BEND RADIUS.
- GROUND BARS SHALL NOT BE FIELD MODIFIED.
- GROUND ROD WILL REQUIRE SPECIAL CASE INSTALLATION. REF: SHT CC-COM-13 DETAIL 4.
- GROUND RING BURIAL DEPTH SHALL BE 30" MINIMUM.
- A CERTIFIED CONTRACTOR WILL MAKE ALL MEASUREMENTS REQUIRED TO TEST THE GROUNDING SYSTEM, USING THE FALL-OFF-POTENTIAL METHOD DESCRIBED IN IEEE STD. 81-2012, "GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM". THE ACCEPTABLE RESISTANCE MEASURED FOR THE GROUNDING SYSTEM WILL NOT EXCEED 5 OHMS RESISTANCE TO EARTH.
- ALL OUTDOOR CONNECTIONS TO BE EXOTHERMIC WELD, INTERIOR CONNECTIONS CAN BE A PROPERLY APPLIED CRIMP TYPE UNLESS OTHERWISE SPECIFIED. MECHANICAL CONNECTORS, TORQUED TO THE MANUFACTURER'S SPECIFIED VALUES, MAY BE USED TO BOND APPARATUS TO GROUND BARS.
- UNDERGROUND CONDUCTOR SHALL BE COVERED WITH CONDUCTIVE BENTONITE CHIPS (PUREGOLD OR EQUIVALENT).
- WHERE ABOVE FINISH GRADE BONDS ARE REQUIRED, PIGTAILS WITH ENOUGH SLACK SHOULD BE LEFT TO COMPLETE THE GROUND.
- ALL EXPOSED COPPER WIRE WILL BE SPRAY PAINTED TO HIDE COPPER AND SHOULD EXTEND 2"-3" BELOW FINISHED GRADE.

LEGEND

- INDICATES EXOTHERMIC WELD CONNECTION
- INDICATES 5/8" X 10'-0" BARE COPPER-CLAD STEEL ROD, DRIVEN UNTIL TOP OF ROD IS 30" BELOW GRADE
- INDICATES 2/0 STRANDED TINNED COPPER WIRE BOND EXOTHERMICALLY WELDED TO EXTERIOR RING
- INDICATES BOND TO BUS BAR EXOTHERMICALLY WELDED
- INDICATES BURIED GROUND CONDUCTORS, 4/0 BARE STRANDED COPPER

YUBA WATER AGENCY COTTAGE CREEK COMM SITE GROUNDING PLAN		COMMUNICATIONS		D		C		B		A	
GPA PROJECT #		3843									
DATE		12/02/2019									
ENG.		JH/LAR									
DR.		RTG		CH							
SHEET 1 OF 1											
SCALE:		1/4"= 1'-0"									
CC-COM-12											
REVISION B											

GROUNDING SUMMARY	SCALE: NTS	1	NOT USED
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NOT USED

NOT USED

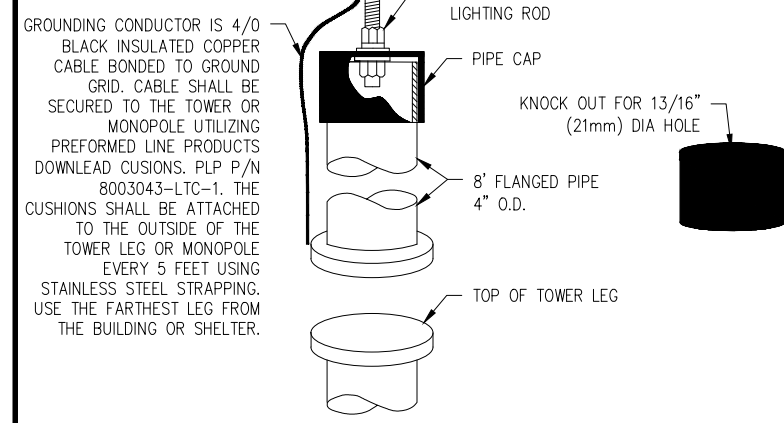


- ① 4/0 AWG BARE TINNED STRANDED COPPER CONDUCTOR.
EXOTHERMICLY WELDED TO FENCE POST.
- ② 4/0 BLACK INSULATED WELDING CABLE.
- ③ EXOTHERMIC CONNECTION OR COPPER BRAIDED LUGS TO BE THROUGH BOLTED TO GATE POST.

SCALE: NONE

SCALE:	2
NTS	

SCALE:	2
NTS	



GROUNDING CONDUCTOR IS 4/0
BLACK INSULATED COPPER
CABLE BONDED TO GROUND
GRID. CABLE SHALL BE
SECURED TO THE TOWER OR
MONOPOLE UTILIZING
PREFORMED LINE PRODUCTS
DOWNLEAD CUSIONS. PLP P/N/
8003043-LTC-1. THE
CUSIONS SHALL BE ATTACHED
TO THE OUTSIDE OF THE
TOWER LEG OR MONOPOLE
EVERY 5 FEET USING
STAINLESS STEEL STRAPPING.
USE THE FARTHEST LEG FROM
THE BUILDING OR SHELTER.

LIGHTING ROD DETAIL (TYPICAL)

SCALE:
NTSSCALE:
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GENERAL CONCRETE NOTES

1.

ALL CONCRETE SHALL HAVE A MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. AS PLACED, THE CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 4". SEE CONCRETE SPECIFICATIONS FOR DETAILED CONCRETE REQUIREMENTS.

2.

ALL REINFORCING STEEL SHALL BE DEFORMED INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60.

3.

TIE WIRE SHALL BE #18 GAUGE MINIMUM.

4.

ALL EXPOSED VERTICAL AND HORIZONTAL CORNERS TO BE CHAMFERED 1".

5.

MINIMUM REINFORCING COVER SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
CONCRETE CAST AGAINST EARTH.....3"
ALL OTHER SURFACES.....2"

6.

FOR ALLOWABLE SOIL STRENGTH PARAMETERS, REFER TO GEOTECHNICAL REPORT.

7.

ALL REINFORCING STEEL SHALL BE FABRICATED IN ACCORDANCE WITH THE 2004 ACI DETAILING MANUAL.

8.

MINIMUM LAP SPLICE FOR BAR = 10".

NOTES

1.

WIRE TIE REBAR TOGETHER WHERE NECESSARY.

2.

ANCHOR FUEL TANK TO FOUNDATION USING HILTI KWIK BOLT KB-TZ ¼" X 5 ½" OR APPROVED EQUAL.

3.

FUEL TANK FOUNDATION SUBGRADE PREP: EXCAVATE 6" AND BACKFILL WITH SAND.

4.

FINAL FOUNDATION DESIGN TO BE PROVIDED BY OTHERS.

NUMBER
REQUIRED

DESCRIPTION

SIZE

DETAIL

FUEL TANK PAD

FUEL TANK PAD

PROpane TANK FOUNDATION DESIGN
TO BE PROVIDED BY OTHERS

YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
PROPANE TANK
FOUNDATION DETAILS

CC-COM-16

REVISION
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COMMUNICATIONS

GP&A PROJECT #

3843

DATE

12/02/2019

ENG

JUN/JAR

DR

RTG

SHEET

1 OF 1

DES.

CPA

CHK

CPA

SCALE

1/4"=1'-0"

REVISIONS

NO.

DATE

NO.

DATE

NO.

DATE

NO.

DATE

A

04/23/20

WG#

ADDED NOTE 4

ENGINEER

J. RECKLESBGA

DES./DR.

S. DRIGGSRTG

CHECKED

R. SMITHCPA

APPROVED



48 VDC POWER CONNECTION	
PIN	DESTINATION
+48 VDC	NOT USED
-48 VDC	NOT USED

- NOTES:**
1. TANK MONITOR INCLUDES ONE (1) SENSOR FOR MONITORING TANK LEVEL, SECOND TANK SENSOR IS OPTIONAL.
 2. SEE PRODUCT MANUAL FOR ANALOG OUTPUT VOLTAGE DETAIL.
 3. USE 48VDC POWER WHEN PRACTICAL, OTHERWISE USE AC TRANSFORMER PROVIDED WITH UNIT.
 4. RS232 SERIAL PORT FOR CRAFT INTERFACE INCLUDED.
 5. FINAL WIRING DESIGN TO BE PROVIDED BY OTHERS.

REVISED:09.18.07D. HURLEY

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Shelter Item Callout

No.	Item	Description
1	2 Ton HVAC	2 Ton Baird or equivalent HVAC units. A/B to start alternately, run staged
2	8 Port Entry Panel	4x2 8 port transmission line entry. 1 interior 1 exterior
3	Outside Ground Bus Bar	¼"x4"x20" Copper Bus Bar with 10' #2 exothermically welded lead
4	Inside Ground Bus Bar	¼"x4"x20" Copper Bus Bar with 10' #2 exothermically welded lead
5	Exterior Light	Motion Activated Door Security Light
6	4.5" PVC Sleeve	3 Phase Electrical Service Entry
7	100A 3-Phase AC Service Panel	100 Amp 208/120-Y-VAC 3-Phase Service panel
8	LED Light Fixture	(4) 48" LED Light panels
9	30A Twist Lock Receptacles	(2) L6-30P Twist lock receptacles for AC power to DC rectifiers
10	Electrical Receptacle	120 VAC GFCI Electrical Receptacle
11	Hoffman box for fiber cable storage	18"x18"x12" Hoffman box for fiber optic cable slack storage
12	Cable Ladder	12" wide with 1.5" rails
13	Dehydrator Shelf	Commscope MT-050C or Similar Shelf Mounted Dehydrator
14	1" PVC Sleeve	Wall Penetration for Door Security Light
15	Unistrut	1 5/8" x 1 5/8" Unistrut bolster for light fixtures
16	Telco Board	4'x4'x¾" Plywood board for Telco Blocks
17	Exterior Manual Disconnect	Exterior Mounted Manual Disconnect, allows disconnection w/o building entry
18	4" PVC Riser	4" PVC Riser to Manual Disconnect for electrical service entry
19	3" PVC Sleeve	Fiber Optic Cable entry
20	3" PVC Riser	3" PVC Riser to Hoffman Box for fiber optic cable
21	Folder Tray	Metal or Plastic Tray for Misc Paper Storage
22	120 VAC Duplex Receptacles	120 VAC Convenience Receptacles
23	4 Port Air Manifold	Commscope 4 Port air manifold for 3/8" airline
24	Halo Ground	#2 Green Insulated Ground wire bonded to inside bus
25	1" PVC Sleeve	Wall Penetration at 45 deg. Down angle for #2AWG Ground wire for inside bus to connect to ground grid
26	Rain Cover	Rain Cover over entry door
27	Light Switch	Duplex Light Switch for inside and outside lighting
28	Wall Mounting Kit	Wall mounting kit for 12" cable ladder
29	Fire Suppression Bottle	Pressurized gas (By Others)
30	1" PVC Riser	1" PVC Riser for alarm cabling
31	6" x 6" x 4" Box	Box for alarm cable slack storage
32	1" PVC Sleeve	Wall penetration for LPG alarm entry
33	Quad Plug	120 VAC Quad Receptacle for Data Rack

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YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
COMMUNICATIONS SHELTER CALLOUT

REVISION
B

COMMUNICATIONS

GP&A PROJECT # 3843
DATE 12/02/2019
ENG JHN/JAR
DR RTG
SHEET 1 OF 1

CC-COM-18



NO. DATE
A 03/05/20
B 04/03/20

REVISIONS
ADD ITEM 29 AND CHANGE SHEET NO.
ADD ITEM 33 QUAD PLUG

ENGINEER
J. RECKLES/GPA
J. RECKLES/GPA

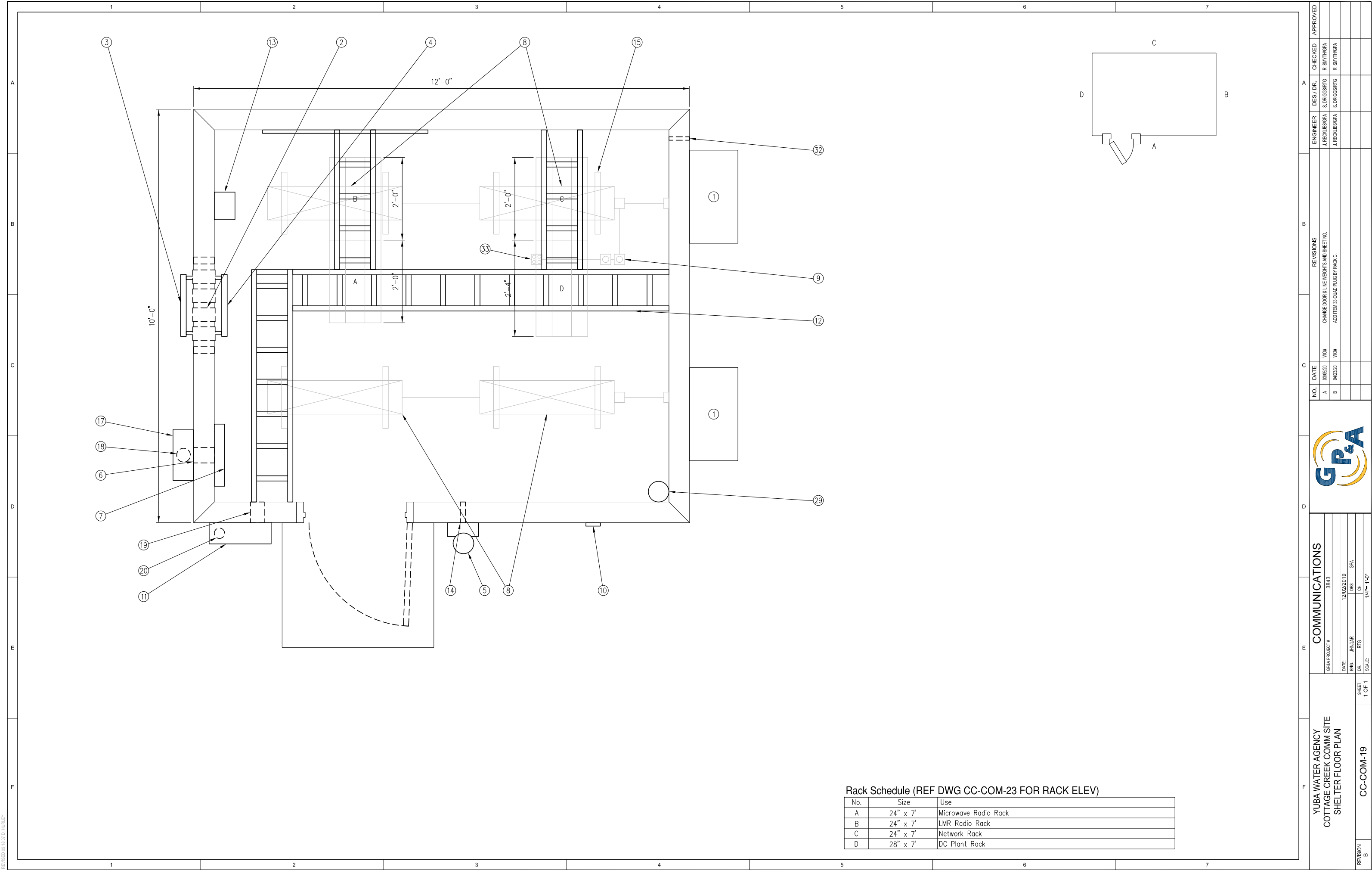
DES./DR.
S. DRIGGS/RTG
S. DRIGGS/RTG

CHECKED
R. SMITH/GPA
R. SMITH/GPA

APPROVED

REVISED:09.18.07 D. MURLEY

FILE LOCATION:X:\RTG Clients\GPA\Project 3843\Cottage Creek\CC-COM-19 (RA) SH1 SAVED BY:(STERLIN) 6/27/2020 5:57 PM PLOTTED BY:(STERLIN) 6/27/2020 8:21 PM



YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
SHELTER FLOOR PLAN

COMMUNICATIONS



REVISIONS

ENGINEER

DES./DR.

CHECKED

APPROVED

REVISION
B

CC-COM-19

SHEET
1 OF 1

DATE: 12/02/2019
ENG: JPN/JAR
DR: RTG
SCALE: 1/4" = 1'-0"

GPA PROJECT # 3843

NO. DATE

CHANGE DOOR & LINE WEIGHTS AND SHEET NO.
ADD ITEM 33 QUAD PLUG BY RACK C.

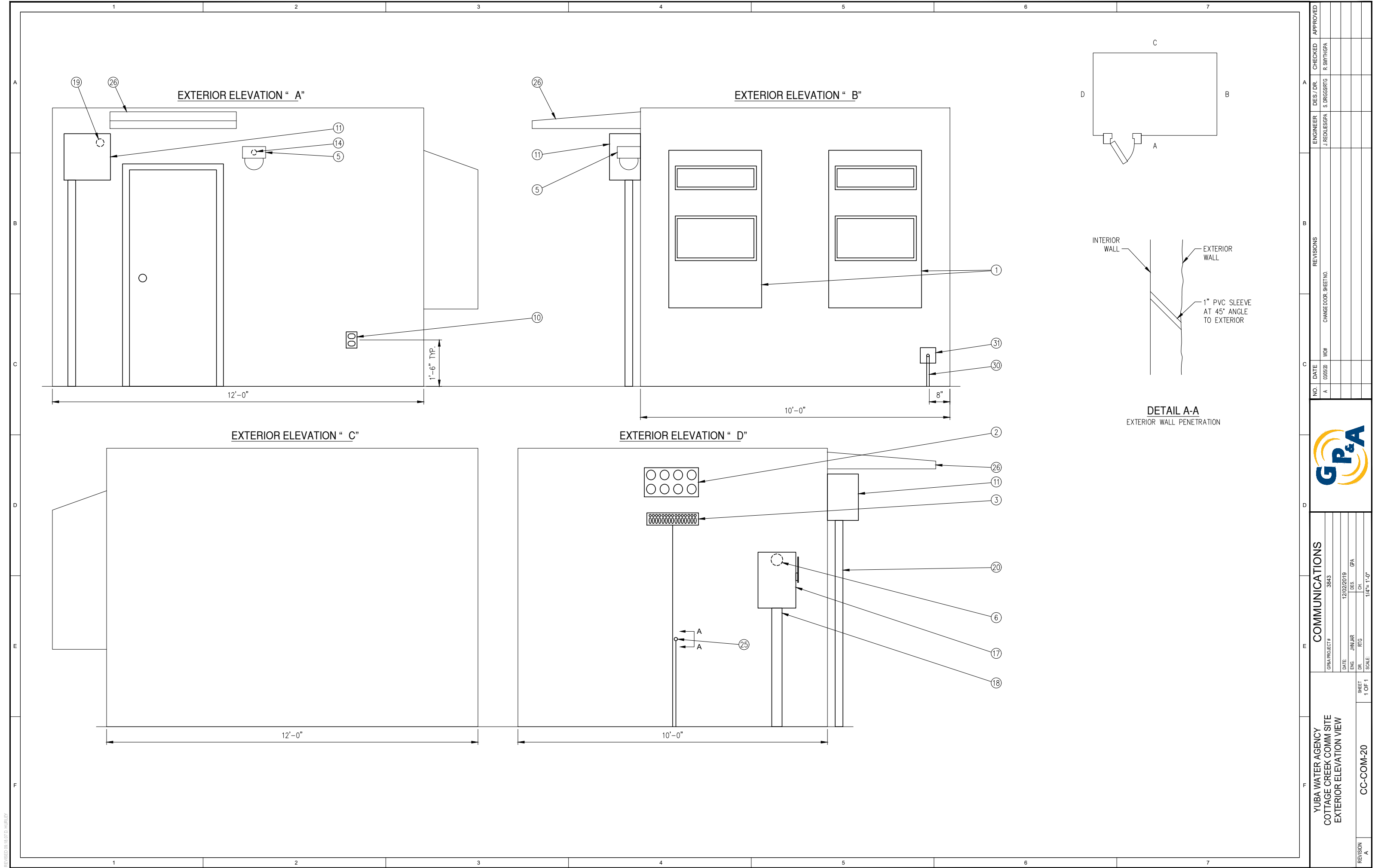
J. RECKLES/GPA
J. RECKLES/GPA

S. DRIGGS/RTG
S. DRIGGS/GPA

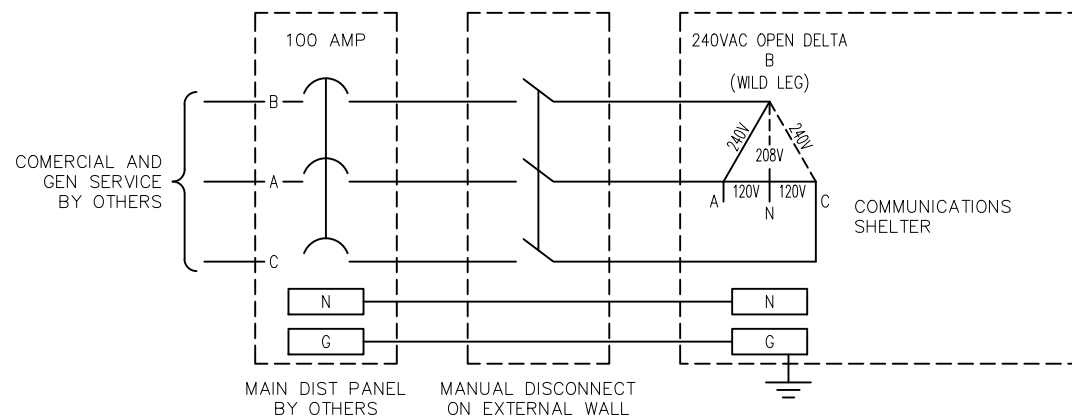
R. SMITH/GPA
R. SMITH/GPA

REVISED:09.18.07D. HURLEY

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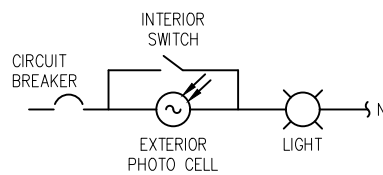


CP1 100A, 120/240 VAC, 3P/4W, 60HZ, M.BKR, MAIN LUG, OPEN DELTA																		
Load	VOLT AMPS			Wire	Breaker		Ckt	Main Lug			Ckt	Breaker		Wire	VOLT AMPS			Load
	A	B	C		P	Trip		A	B	C		Trip	P		A	B	C	
HVAC-A	2100.00			10			1	●	●	●	2			10	2100.00			HVAC-B
		2100.00		10	3	30	3		●		4	30	3	10		2100.00		
			2100.00	10			5			●	6			10			2100.00	
-48 VDC BATT CHGR TWIST LOCK #1	670.00			12			7	●			8	20		12	670.00			-48 VDC BATT CHGR TWIST LOCK #2
		670.00		12	3	20	9		●		10	20	3	12		670.00		
			670.00	12			11			●	12	20		12			670.00	
QUADPLEX OUTLETS	360.00						13	●			14	20	1	12	180.00			EXTERIOR GFCI
NOT USED (WILD LEG)							15		●		16							NOT USED (WILD LEG)
LIGHTS			93.00				17			●	18						540.00	WALL A & B RCPTS
							19	●			20				540.00			WALL C & D RCPTS
							21		●		22							
							23			●	24							
							25	●			26							
							27		●		28							
							29			●	30							
VA PER PHASE	3130.00	2770.00	2863.00												3490.00	2770.00	3310.00	VA PER PHASE
															6620.00	5440.00	6173.00	TOTAL VA
* CALCULATED LOAD PER PHASE															42.60	40.00	41.50	AMPS PER PHASE
** CONNECTION BY OTHERS																	28.30	TOTAL KVA
*** FOR UPS'S TO PLUG TOLL INTEGRATOR EQUIPMENT INTO																	51.00	MAX AMPS PER PHASE
**** CALCULATED FOR AT 125% CONTINUOUS LOAD																	53.20	AMPS PER PHASE
***** NOMINAL LOAD (ONLY ONE CHARGER AND HVAC ONLINE AT A TIME)																	22.60	AMPS PER PHASE



THREE-LINE DIAGRAM

SCALE: NONE



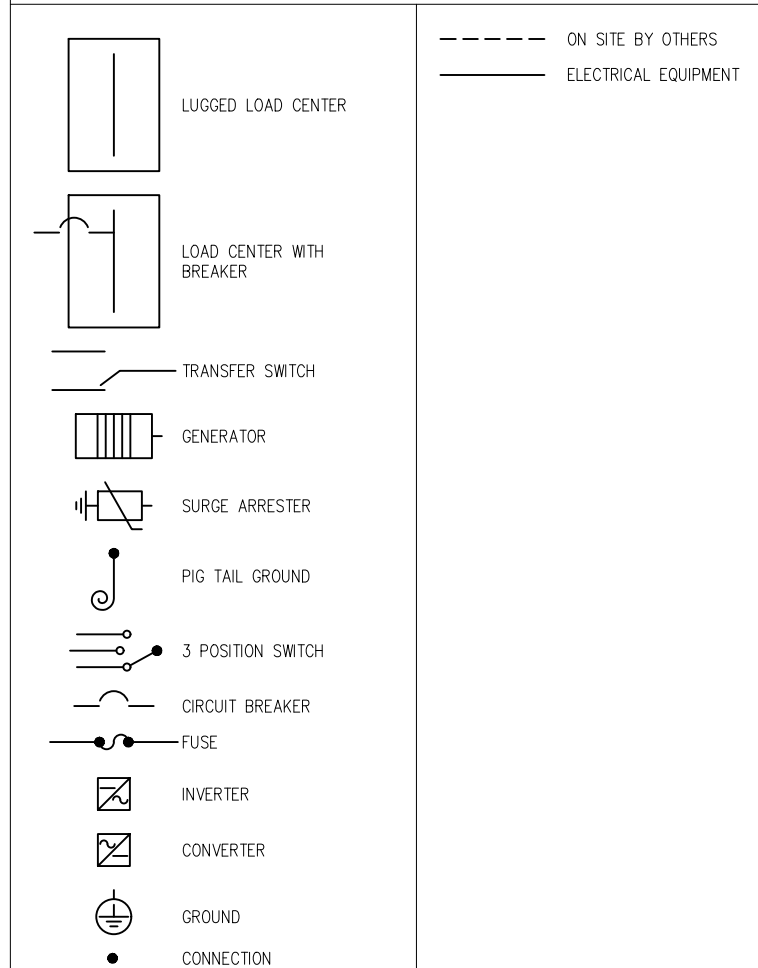
EXTERIOR LIGHT CIRCUIT

SCALE: NONE

ONE-LINE DIAGRAM NOTES:

1. ALL GROUNDING TO CONFORM TO ARTICLE 250 OF THE NEC.
2. WIREWAYS CARRYING 3 OR MORE CURRENT CARRYING CONDUCTORS SHALL BE DERATED FOR TABLE 310-15(B)(3)(a) OF THE APPLICABLE EDITION OF THE NEC.
3. CONDUIT FILL IS BASED ON CHAPTER 9, APPENDIX C OF THE NEC.
4. INCLUDE THE NEUTRAL TO GROUND BOND SCREW TO BE DONE ON SITE BY OTHERS.

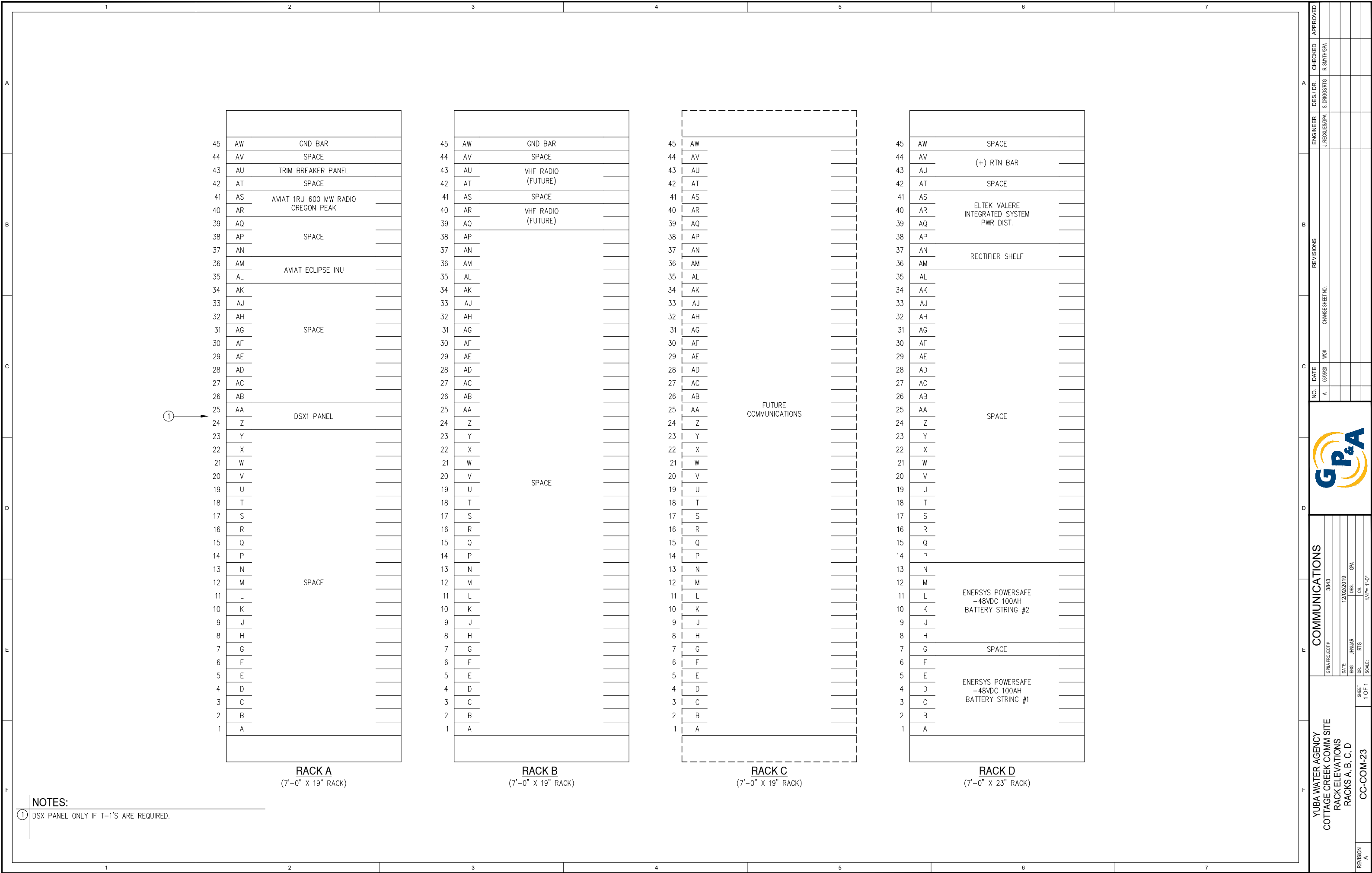
SCHEMATIC LEGEND



NOTES:

- ① ELECTRICAL LOADS NEED TO BE VERIFIED. THESE ARE BEST GUESS BASED ON HISTORICAL DRAWINGS FROM YUBA.

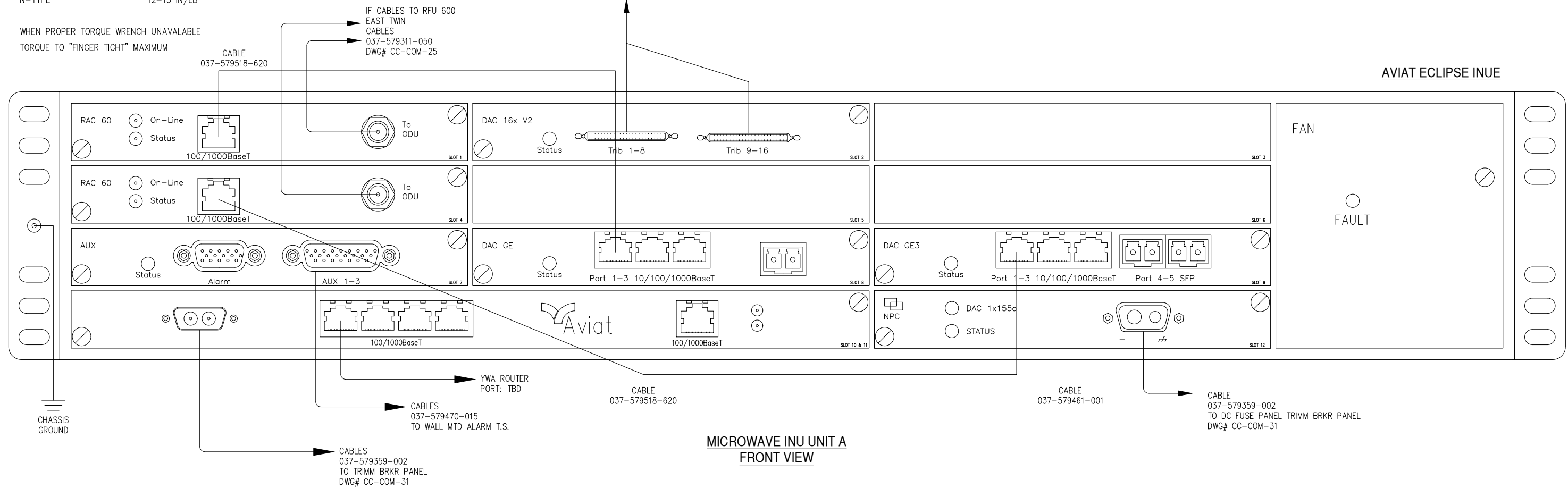
<div> <div>REVISION A</div> <div>CC-COM-22</div> </div>	<div> <div>YUBA WATER AGENCY COTTAGE CREEK COMM SITE ELECTRICAL LOAD PLAN</div> <div>COMMUNICATIONS</div> </div>	<div> <div>DATE</div> <div>12/02/2019</div> </div>	<div> <div>GP&A PROJECT #</div> <div>3843</div> </div>	<div> <div>DATE</div> <div>12/02/2019</div> </div>	<div> <div>ENG</div> <div>JUNJLW</div> </div>	<div> <div>DR.</div> <div>RTG</div> </div>	<div> <div>DES.</div> <div>GPA</div> </div>	<div> <div>CH.</div> <div>RTG</div> </div>	<div> <div>SCALE:</div> <div>1/4"= 1'-0"</div> </div>	<div> <div>SHEET</div> <div>1 OF 1</div> </div>	<div> <div>NO.</div> <div>A</div> </div>	<div> <div>DATE</div> <div>03/05/20</div> </div>	<div> <div>WC#</div> <div></div> </div>	<div> <div>CHANGE SHEET NO.</div> <div></div> </div>	<div> <div>REVISIONS</div> <div></div> </div>	<div> <div>ENGINEER</div> <div>J. REUKESGPA</div> </div>	<div> <div>DES / DR.</div> <div>S. DRIGGSRTG</div> </div>	<div> <div>CHECKED</div> <div>R. SMITHGPA</div> </div>	<div> <div>APPROVED</div> <div></div> </div>
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REVISED:09.18.07.D. HURLEY

SMA, BRASS	3-5 IN/LB
SMA, STAINLESS	7-10 IN/LB
TNC	12-15 IN/LB
N-TYPE	12-15 IN/LB

WHEN PROPER TORQUE WRENCH UNAVAILABLE
TORQUE TO "FINGER TIGHT" MAXIMUM



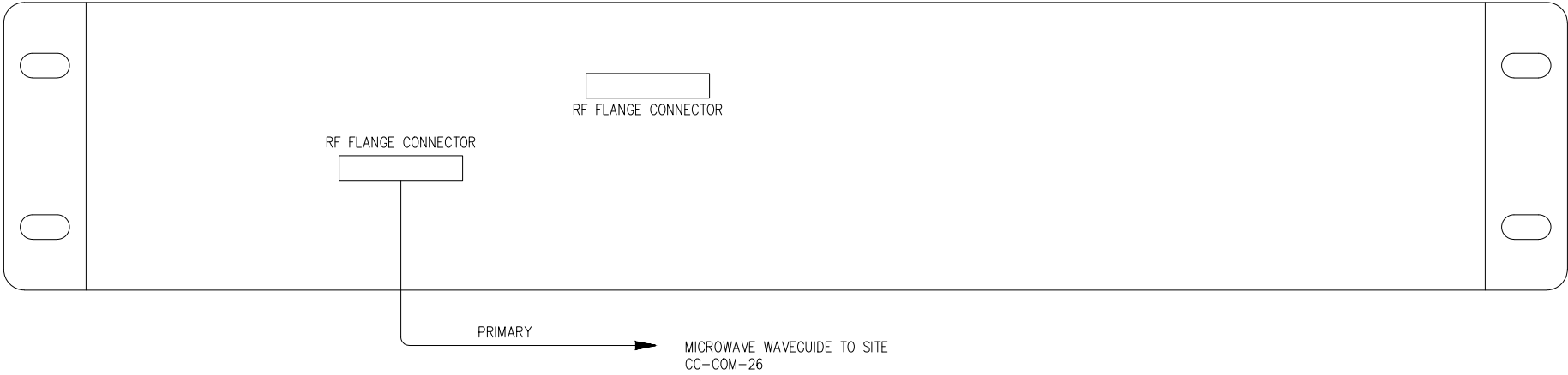
SLOT 1	SLOT 2	SLOT 3	F A N
SLOT 4	SLOT 5	SLOT 6	
SLOT 7	SLOT 8	SLOT 9	
NCC		SLOT 10	

ITEM	DESCRIPTION	MAKE	PART NUMBER	QTY
1	PLANNING MODEL ECLIPSE COU 600, 11 GHz	AVIAT	M-EEH-11	2
2	COUPLER ASSEMBLY ECLIPSE, 11 GHz UNEQUAL 6 DB, V AND H POLARIZATION	AVIAT	C86-523341-611	1
3	ECLIPSE POLE MOUNT FOR USE WITH SINGLE ODU OR PROTECTION COUPLER (RM99/DE)	AVIAT	C86-000000-101	1
4	ECLIPSE, INTELLIGENT NODE UNIT 2RU, INC IDCE, FAN, NCCV2, HIGH OUTPUT	AVIAT	EXX-000-204	1
5	NODE PROTECTION CARD, HIGH OUTPUT (SLOT 12)	AVIAT	EXS-002	1
6	KIT BRACKET 2RU	AVIAT	179-530064-001	1
7	ECLIPSE, BLANK PANEL ASSY, SINGLE SLOT (SLOTS 3, 5-6)	AVIAT	EXX-001	3
8	RAC 60E, QP5X-256 OAM, HIGH GAIN, NO XPIC, ACM, AND SYNC-E (SLOTS 1, 4)	AVIAT	EXR-660-002	2
9	DAC GE3 GIGABIT ETHERNET SWITCH CARD (SLOT 9)	AVIAT	EXD-181-002	1
10	ECLIPSE, DAC 16XE1/DS1 V2, PROTECTABLE (SLOT 2)	AVIAT	EXD-161-001	2
11	2K HDR-E50 TO Y JOME TO 24AWG FREE END 3.5M (HDR-E50M5G1)	AVIAT	037-579408-003	2
12	DAC 3XE3/DS3M. MUXED TO E1/DS1 BUS	AVIAT	EXD-331-001	2
13	SPLITTER/COMBINER DS3, 2 X SLIMLINE BNC TO BNC CONNECTOR 515mm (D37-579398-D01V_REVX2)	AVIAT	038-579398-001	2
14	AUX, ALARM I/O CARD (SLOT 7)	AVIAT	EXA-001	1
15	CABLE, ALARM I/O HD15 TO WIREWRAP, 15M	AVIAT	037-579470-015	1
16	NODE SW LICENSE, 300 Mbps TOTAL RADIO PAYLOAD CAPACITY	AVIAT	EZE-08005	1

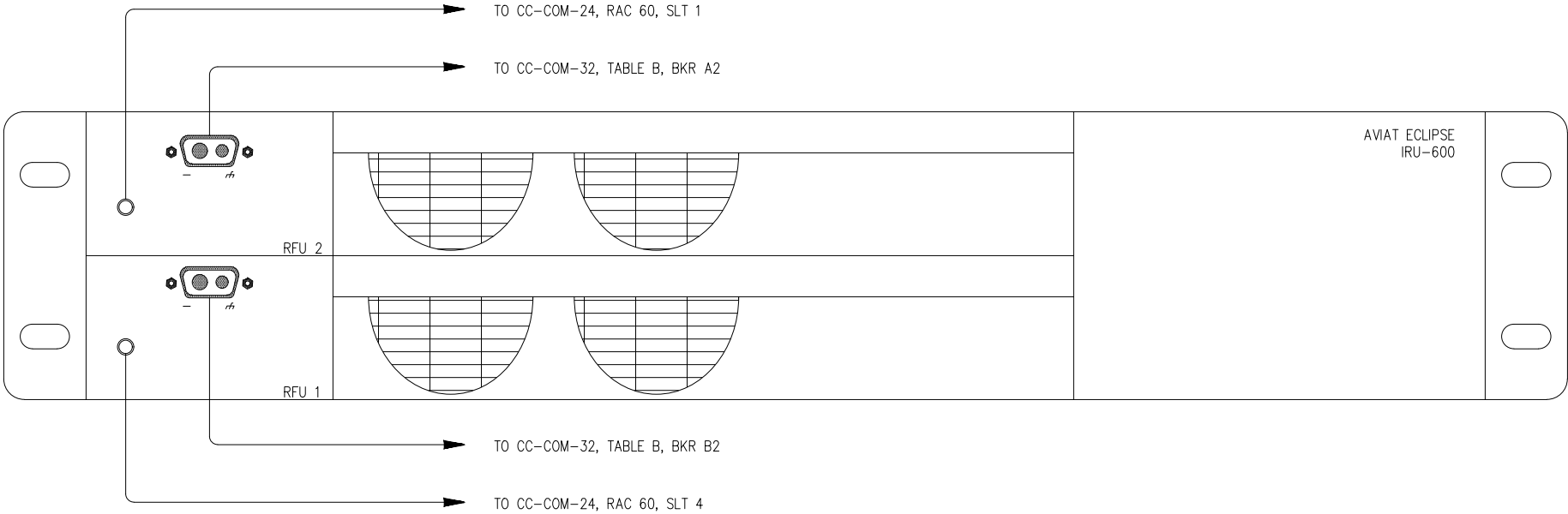
ALARM CABLE, 50 FOOT, AVIAT RADIO				
		HD15		
RELAY 1	CRITICAL	PIN #		COLOR
N/O		3		WHT/GRY
COM		10		RED/GRN
N/C		2		WHT/BRN
RELAY 2	MAJOR			
N/O		12		ORG/WHT
COM		4		GRY/WHT
N/C		11		GRN/RED
RELAY 3	MINOR			
N/O		6		BLU/RED
COM		13		WHT/ORG
N/C		5		RED/BLU
RELAY 4				
N/O		15		GRN/WHT
COM		7		ORG/RED
N/C		14		WHT/GRN

ADD NETWORK INFORMATION
BELOW WHEN REDLINING
DRAWINGS AS-BUILT

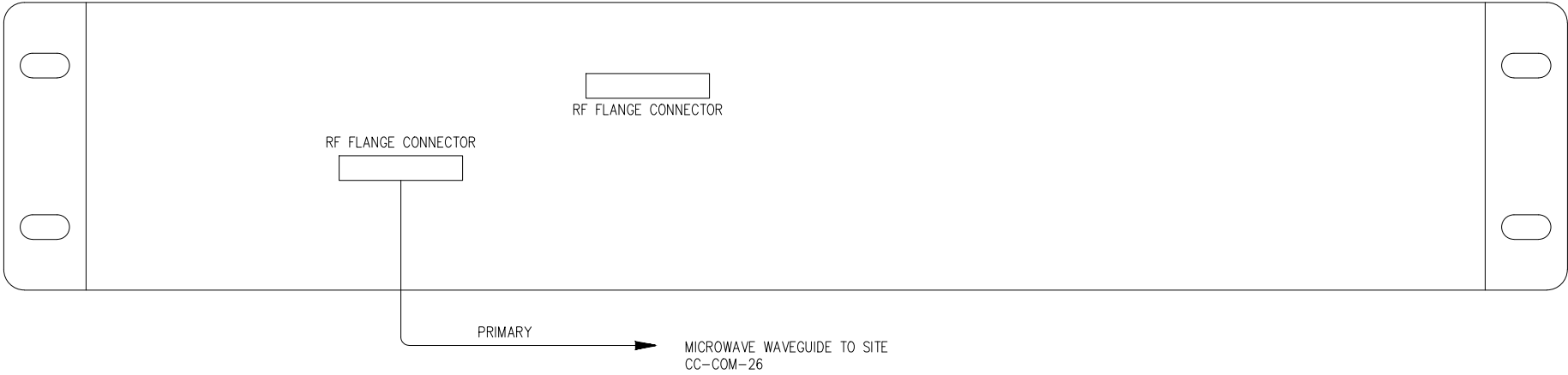
IP ADDRESS:
NETWORK:



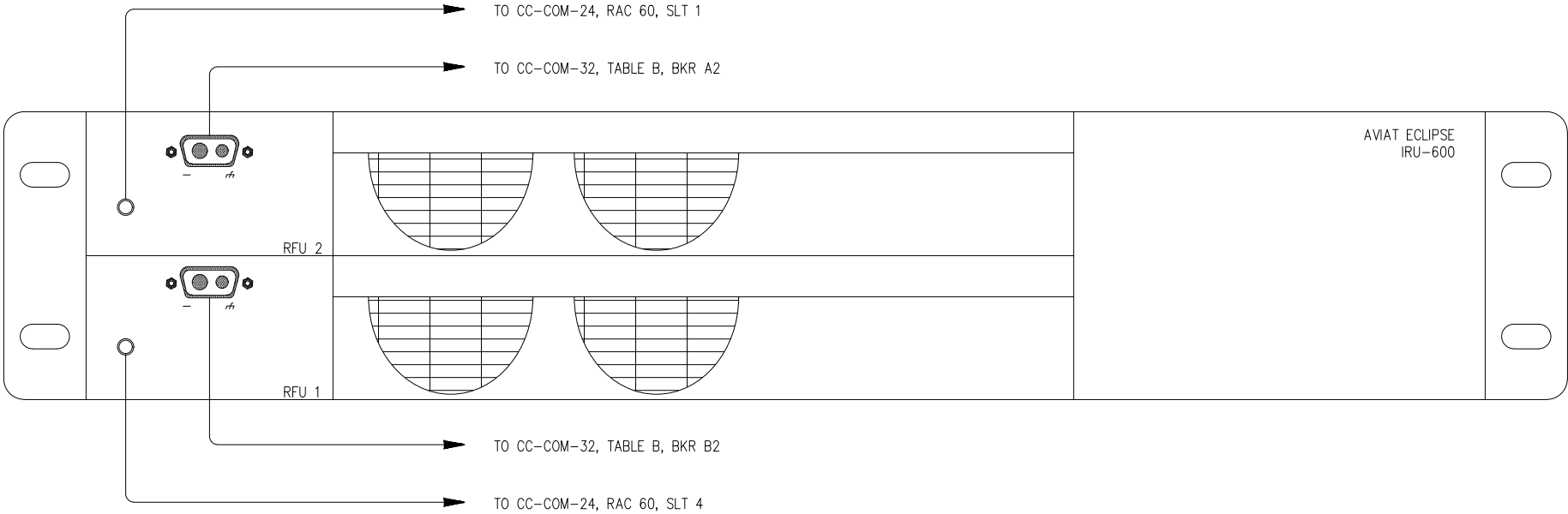
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
FRONT VIEW



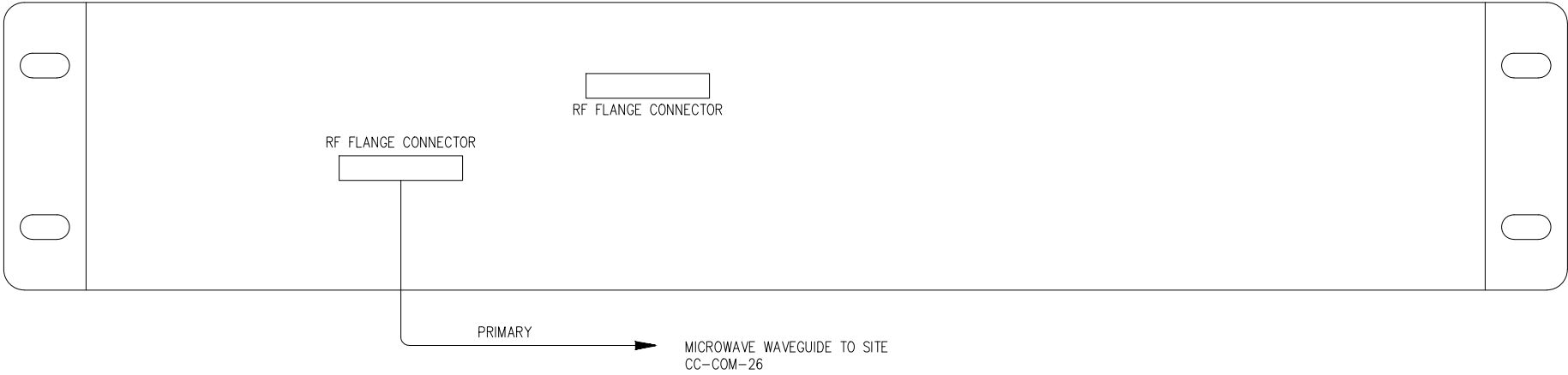
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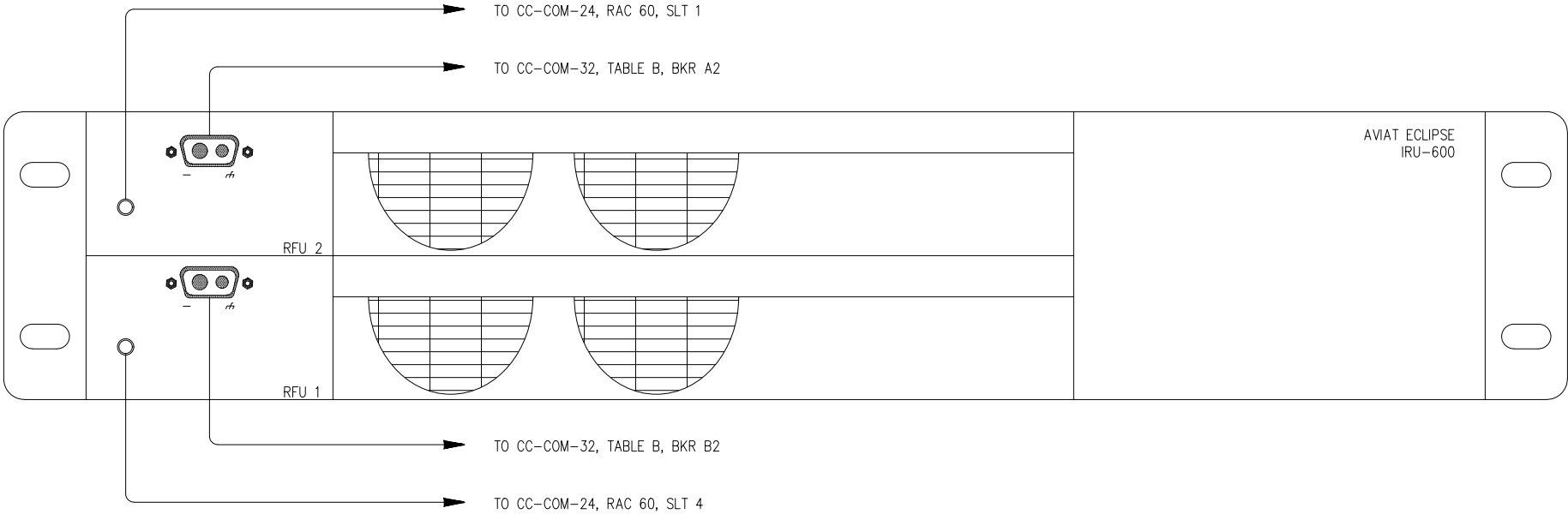
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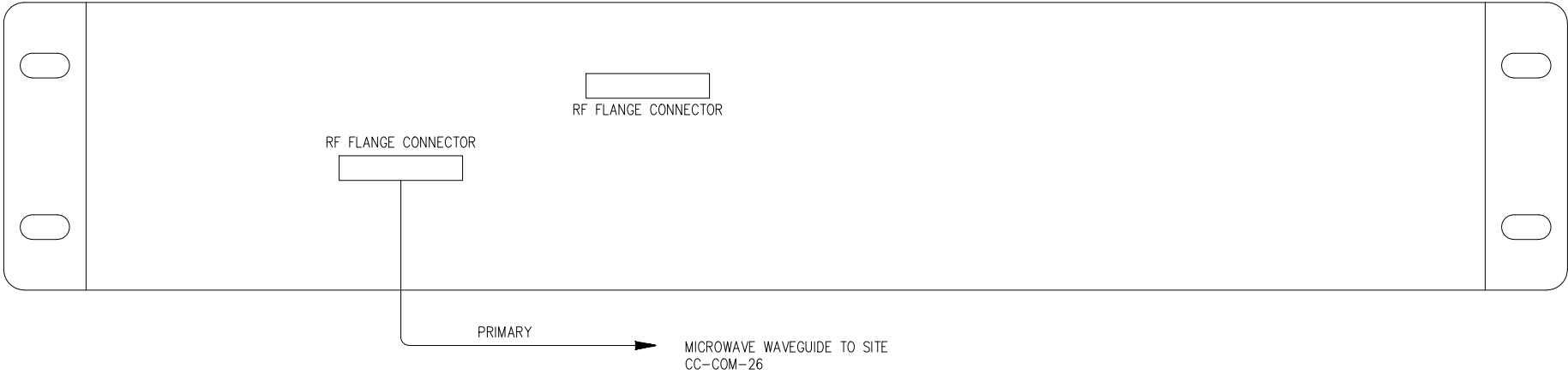
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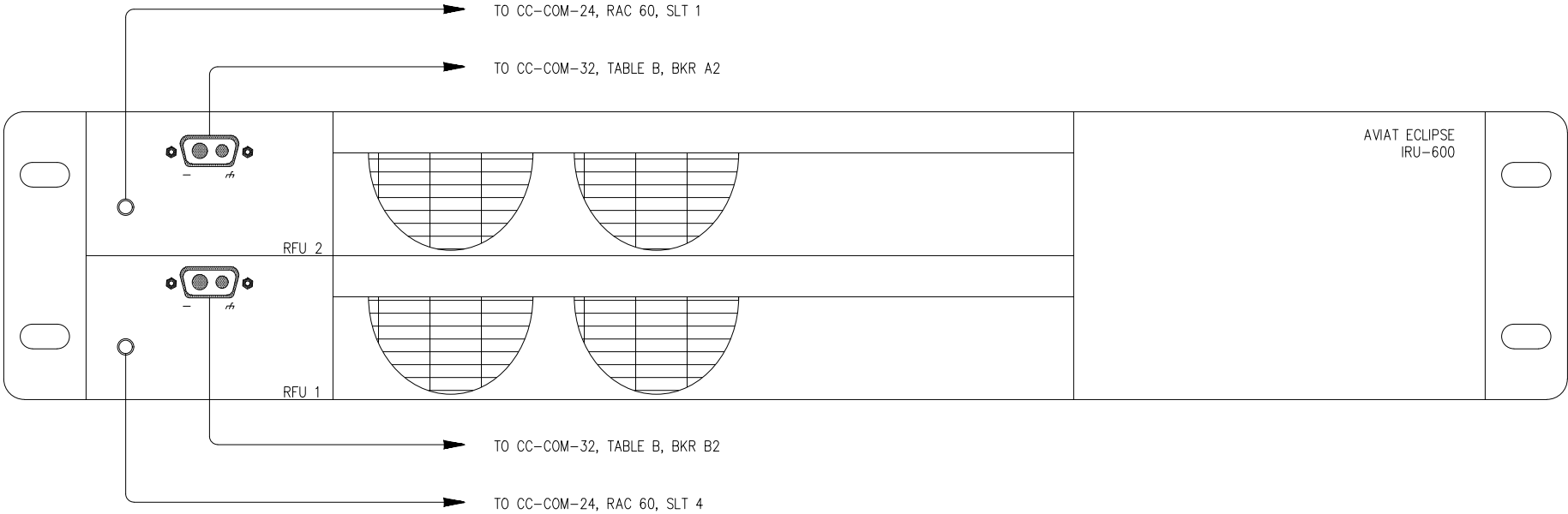
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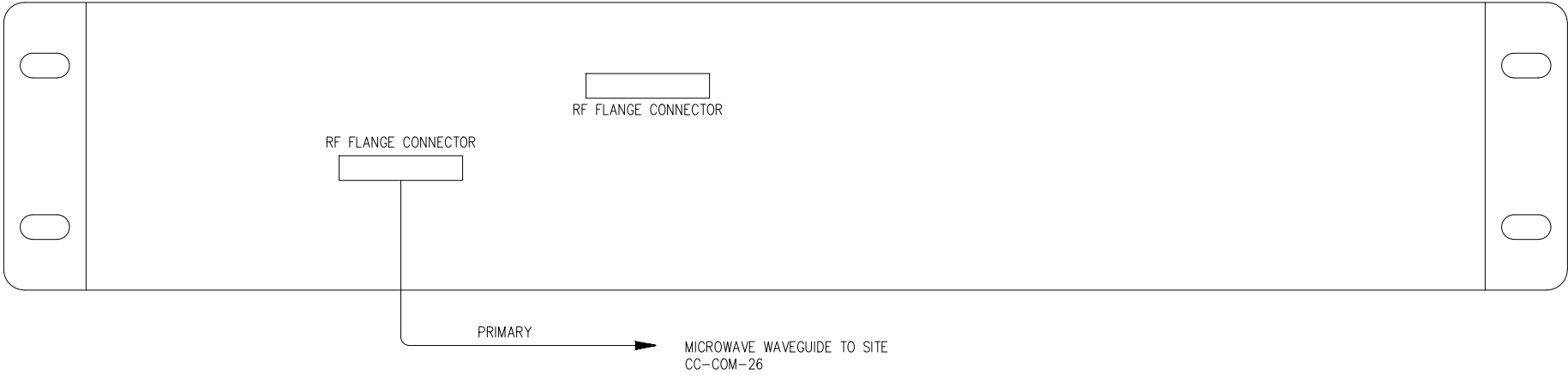
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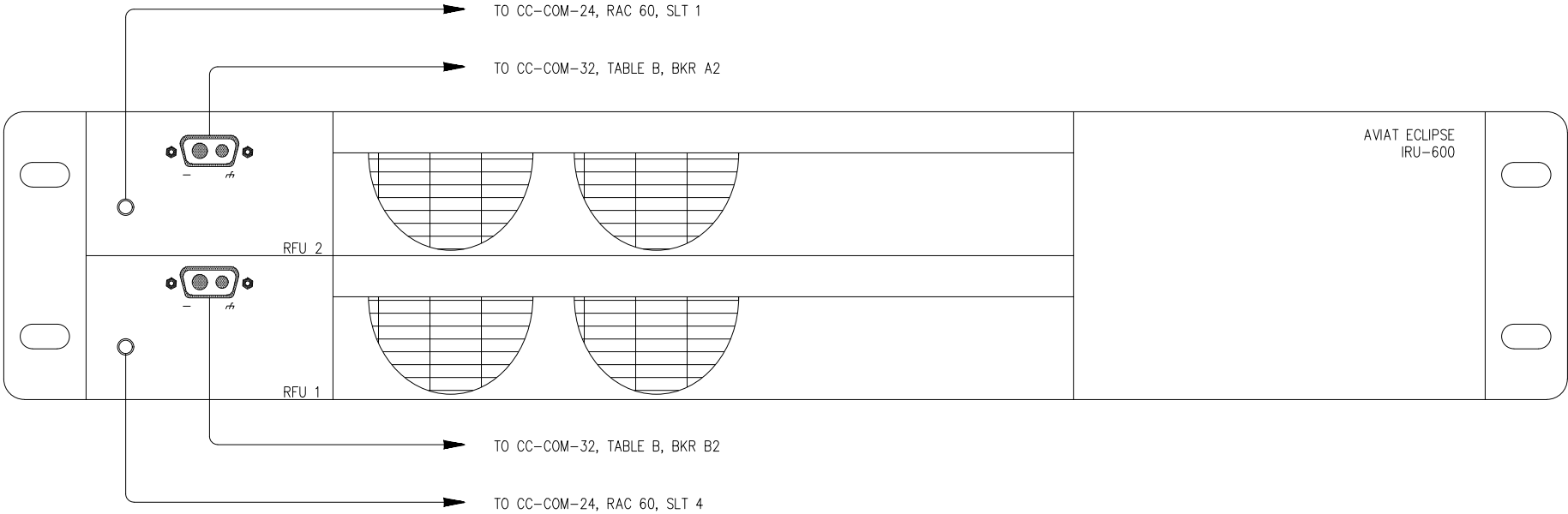
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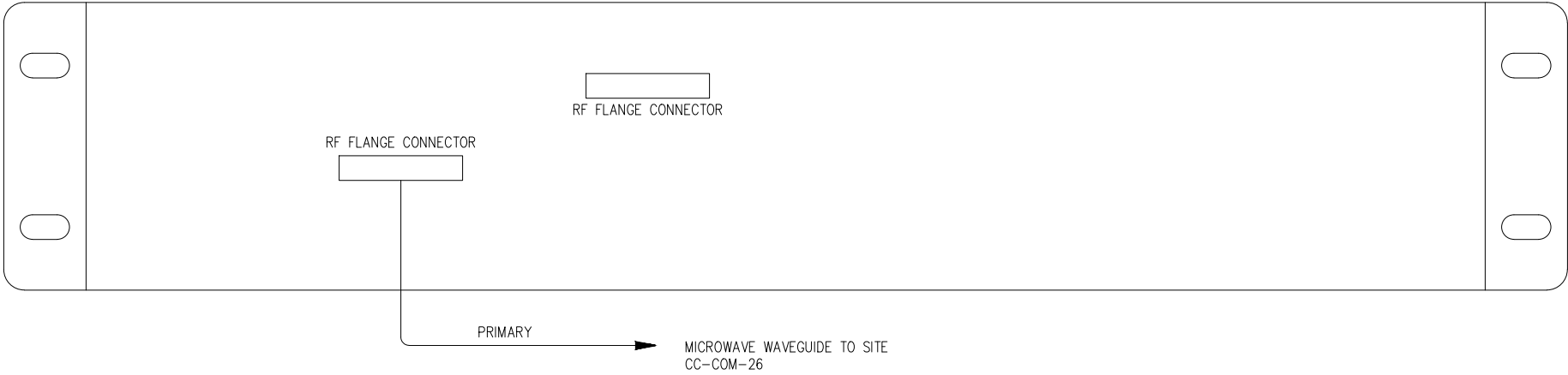
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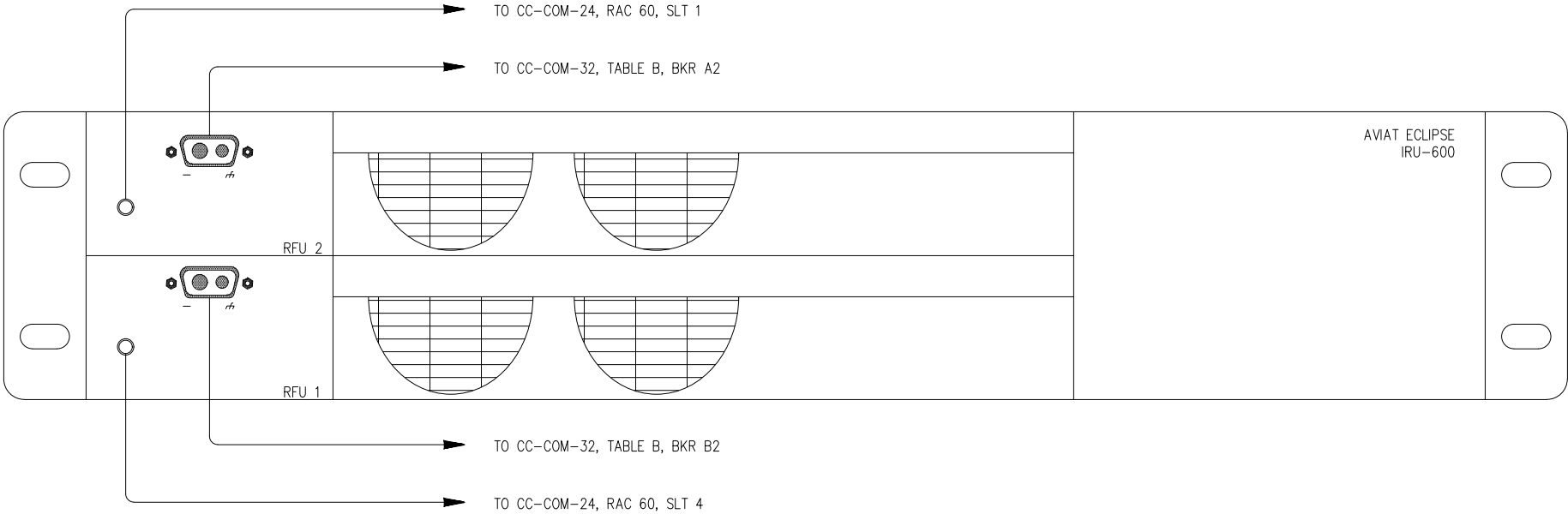
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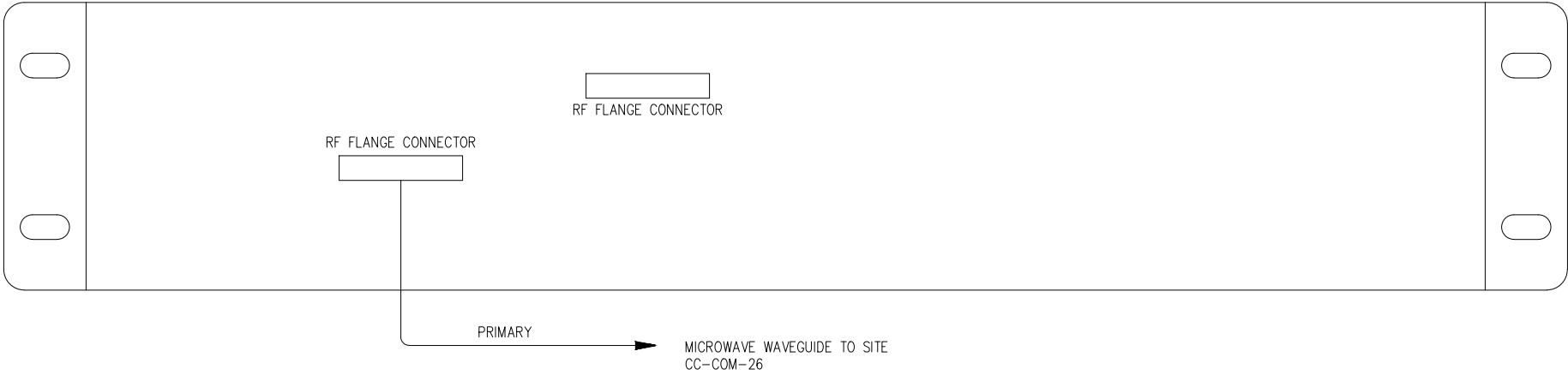
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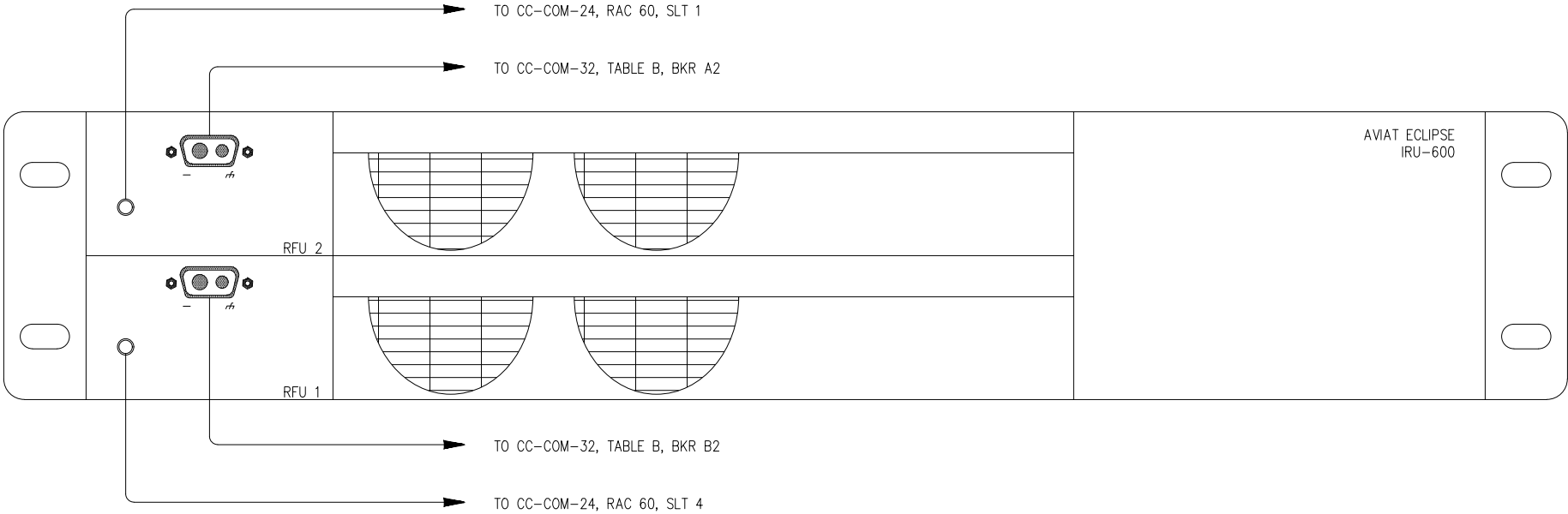
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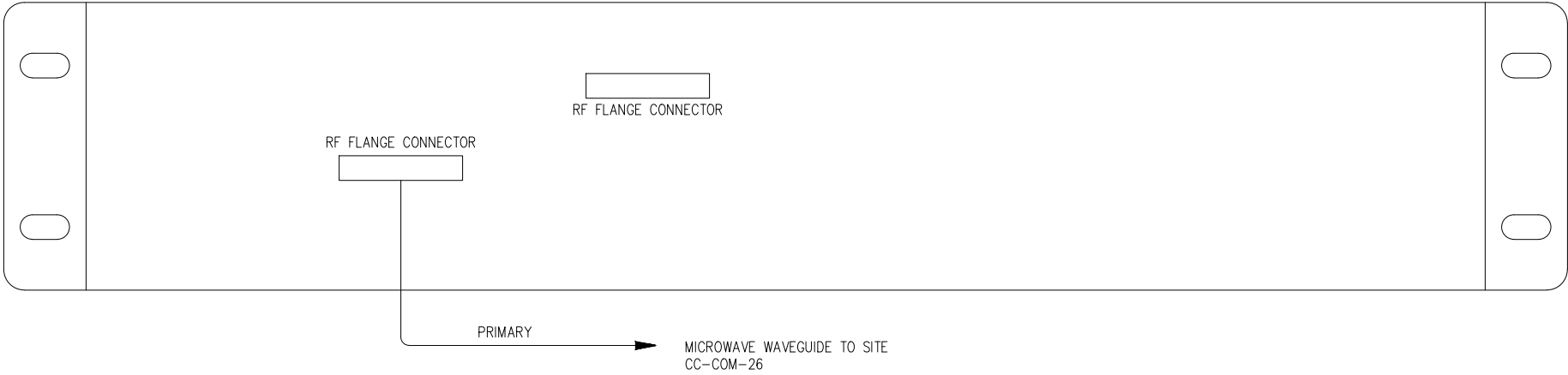
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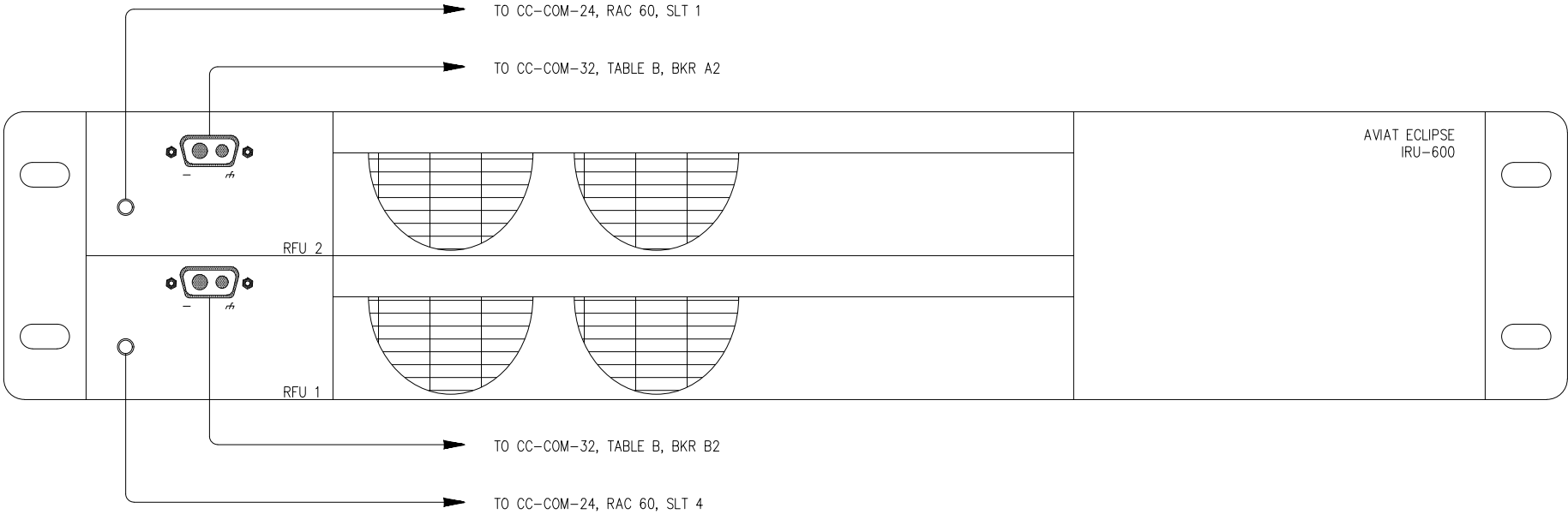
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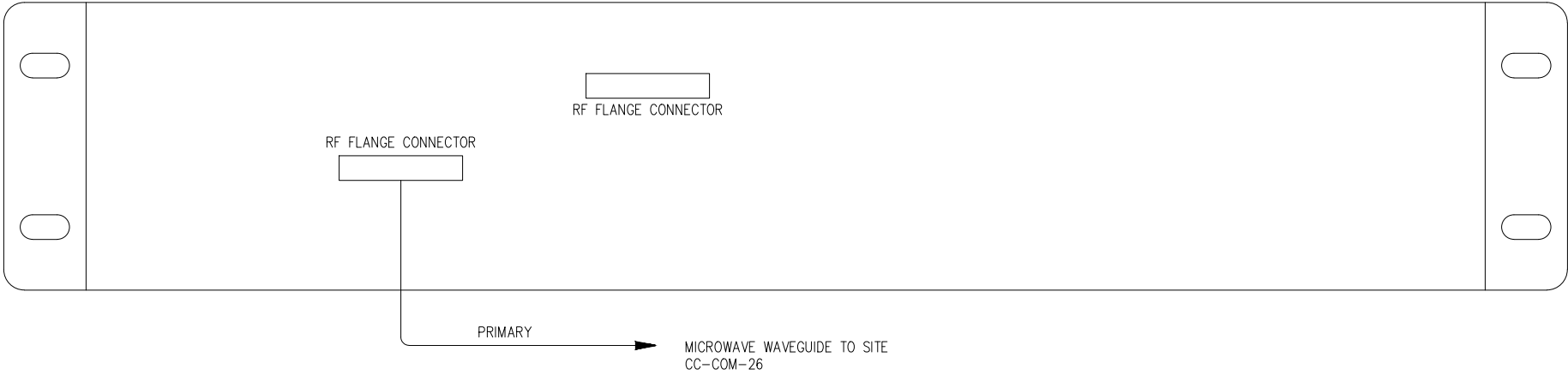
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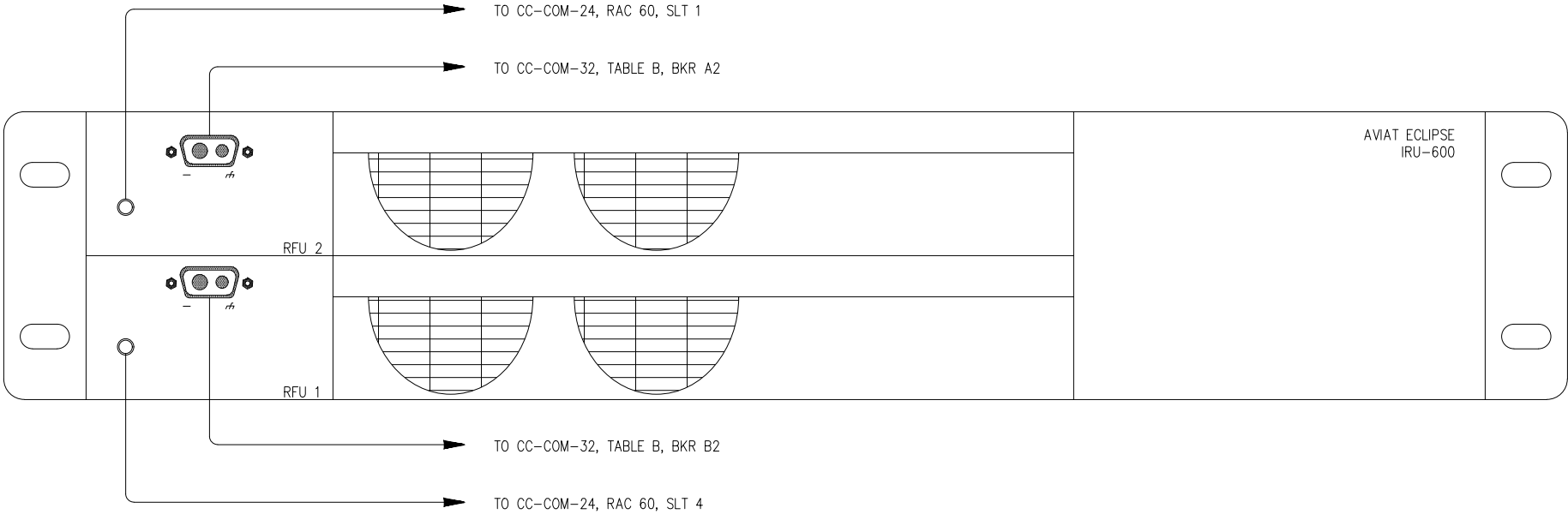
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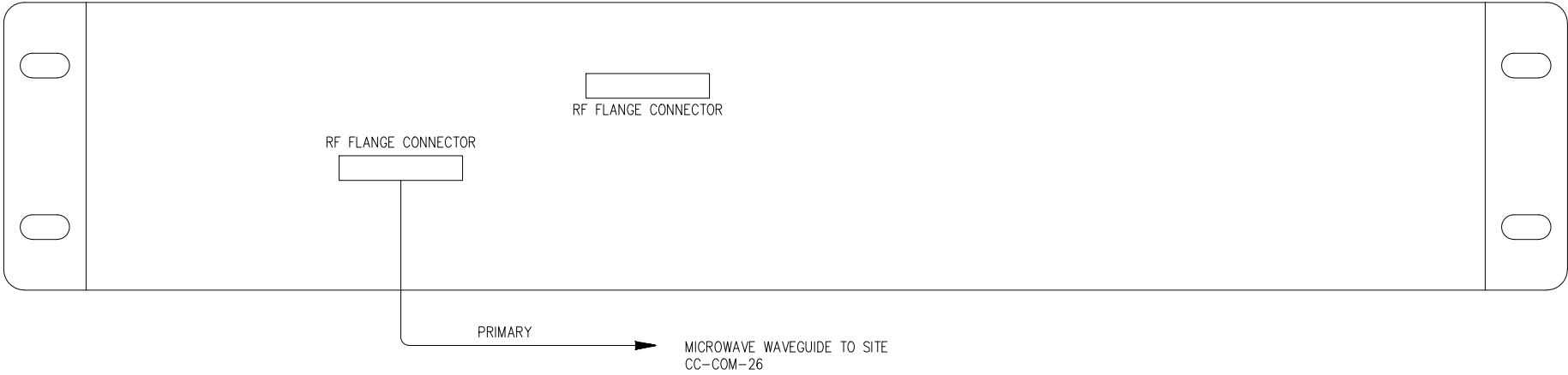
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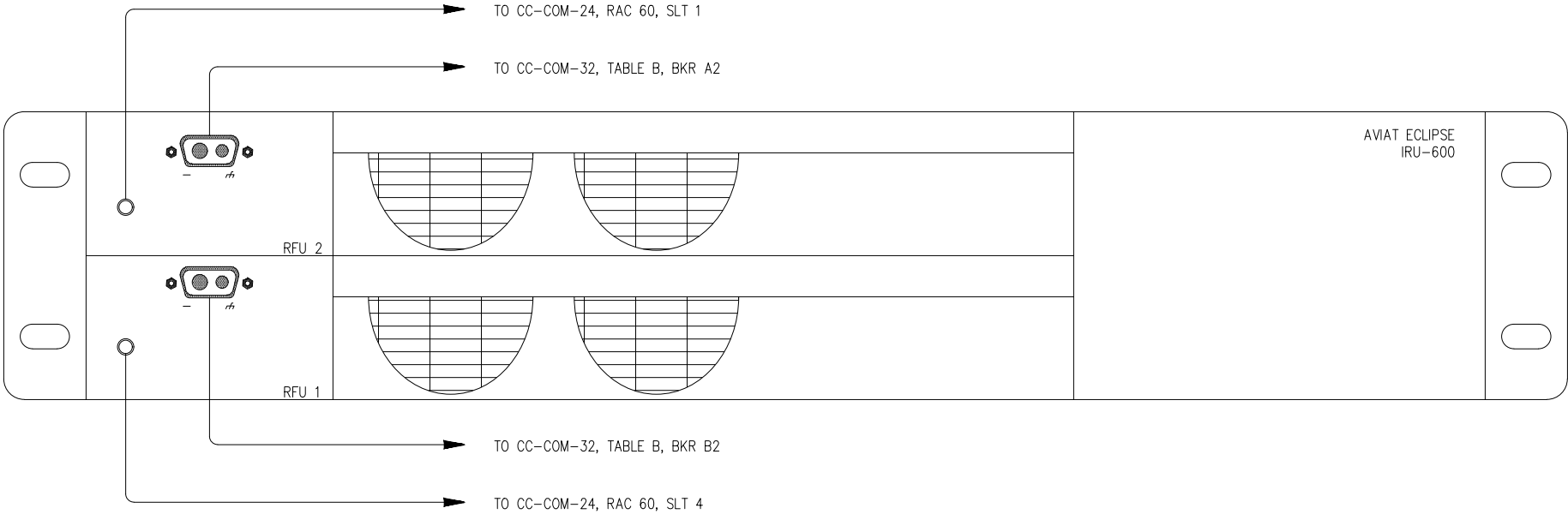
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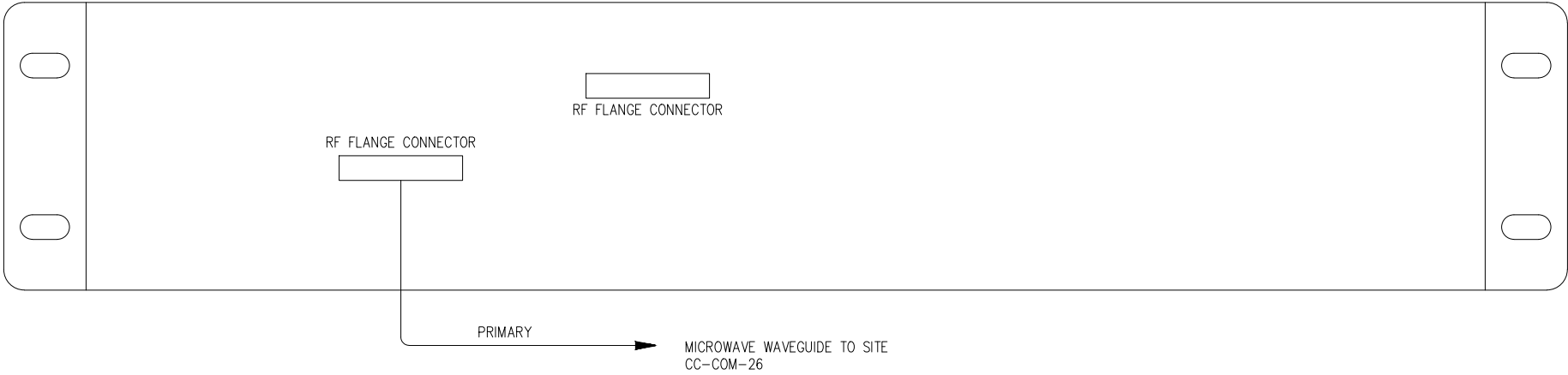
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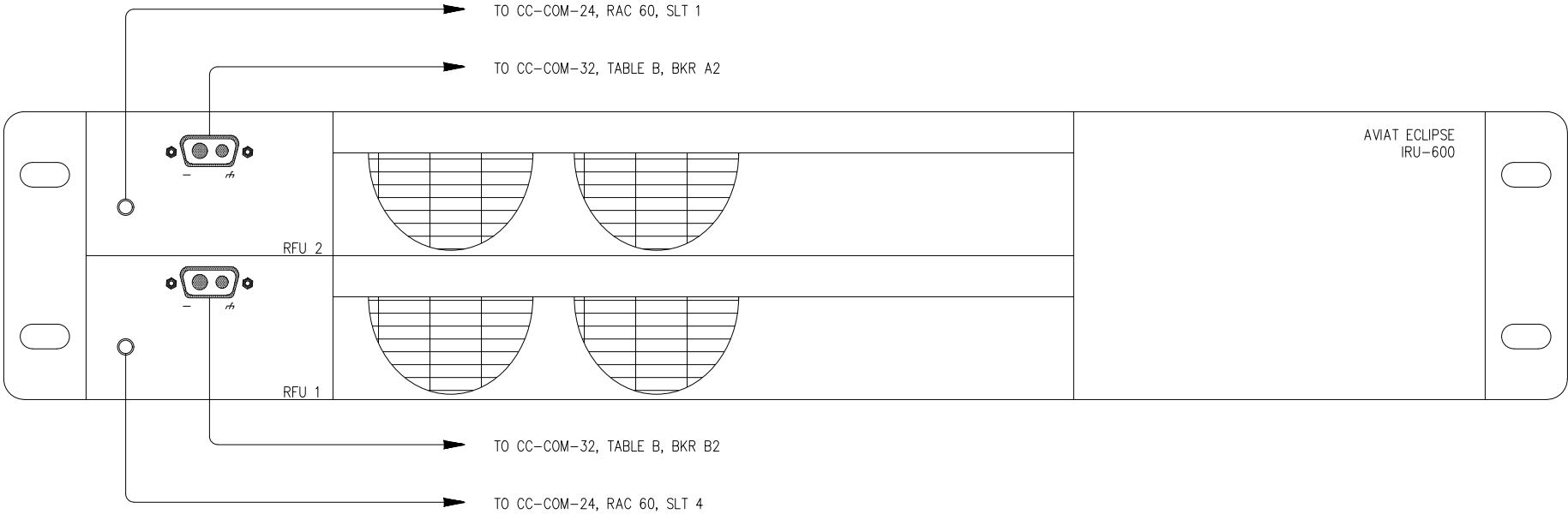
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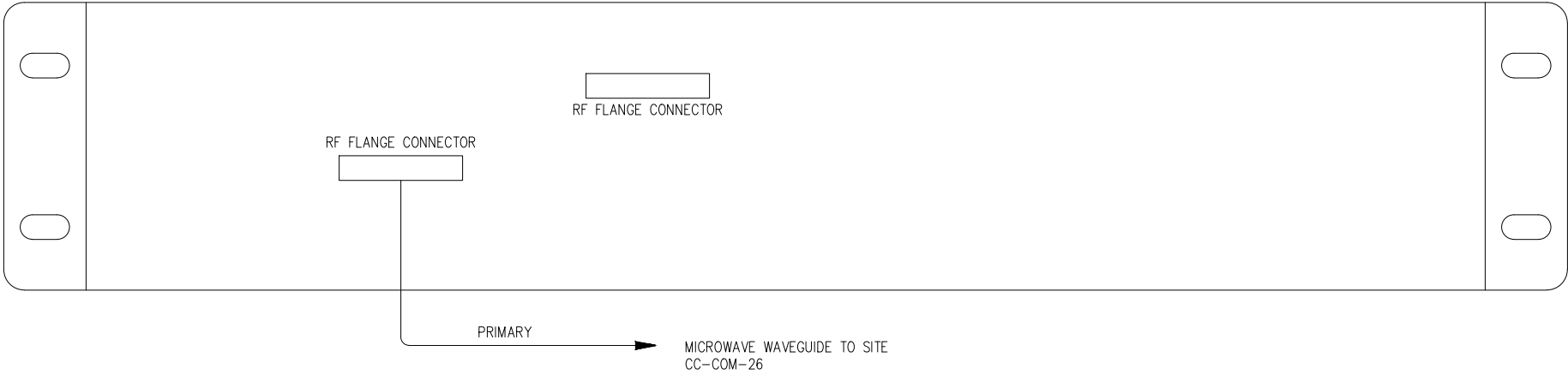
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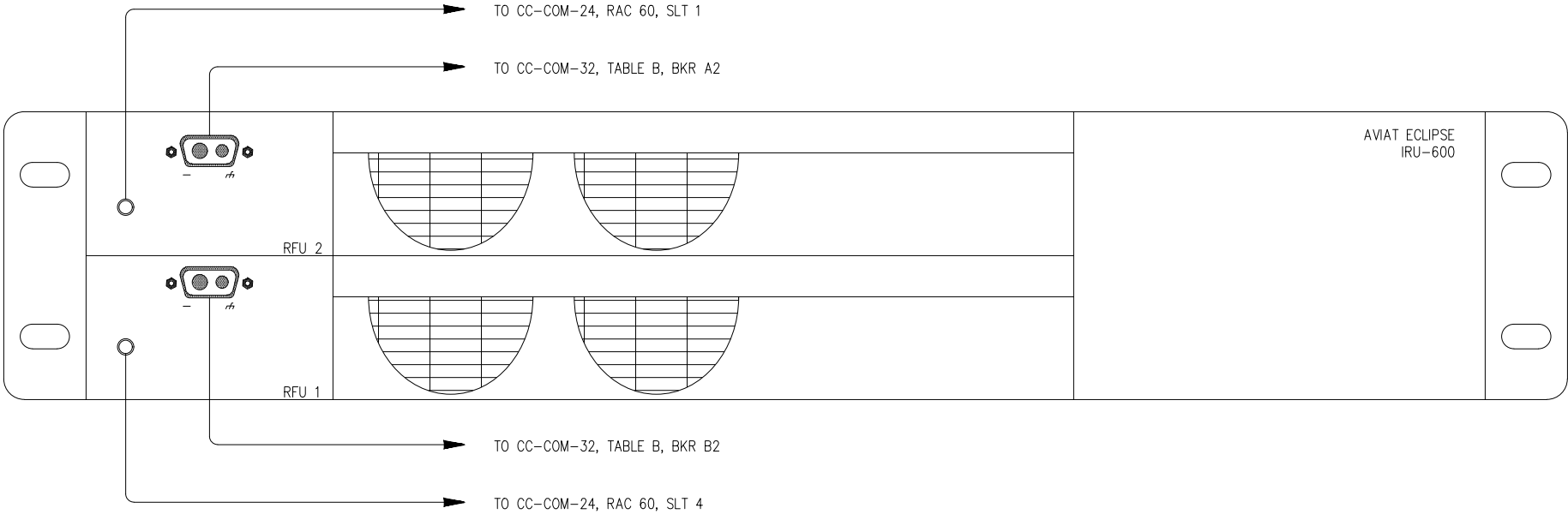
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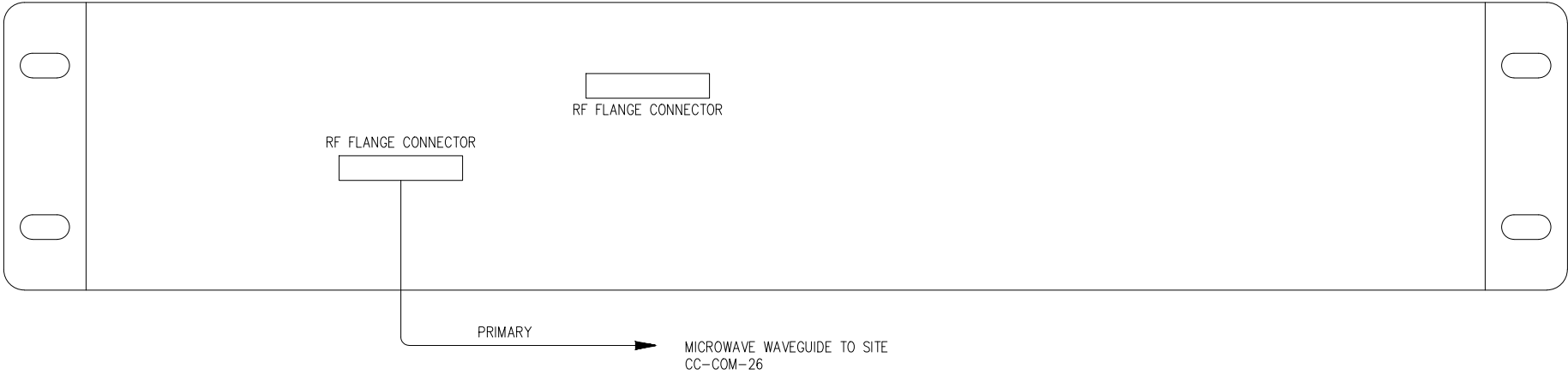
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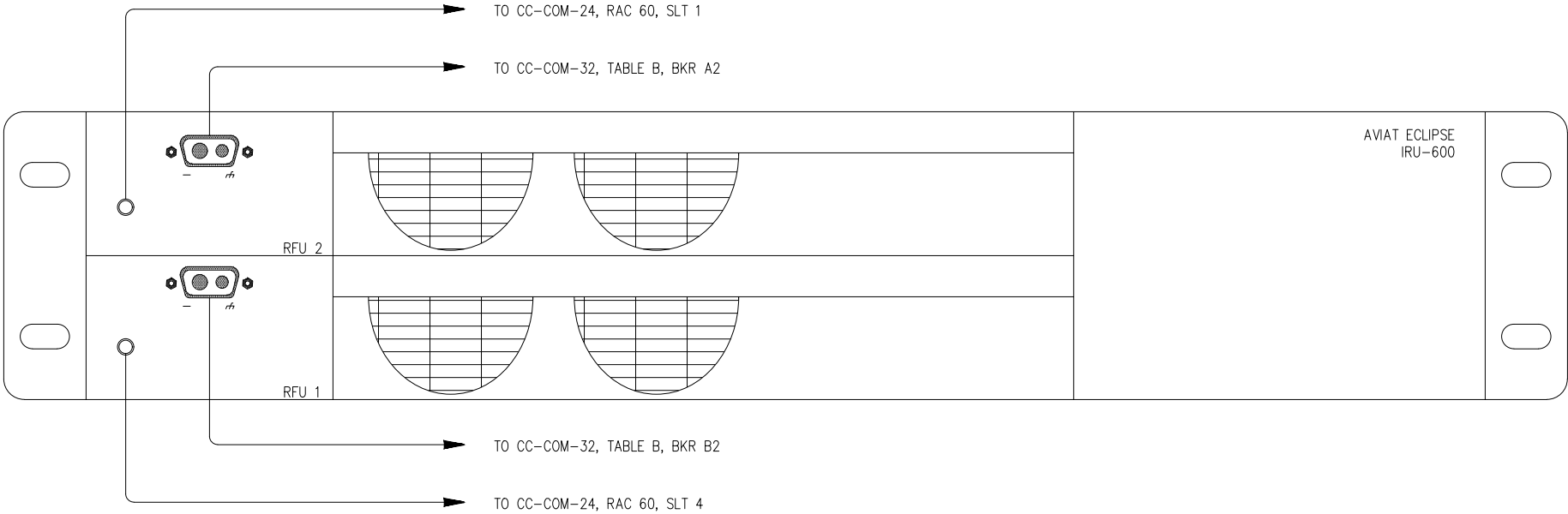
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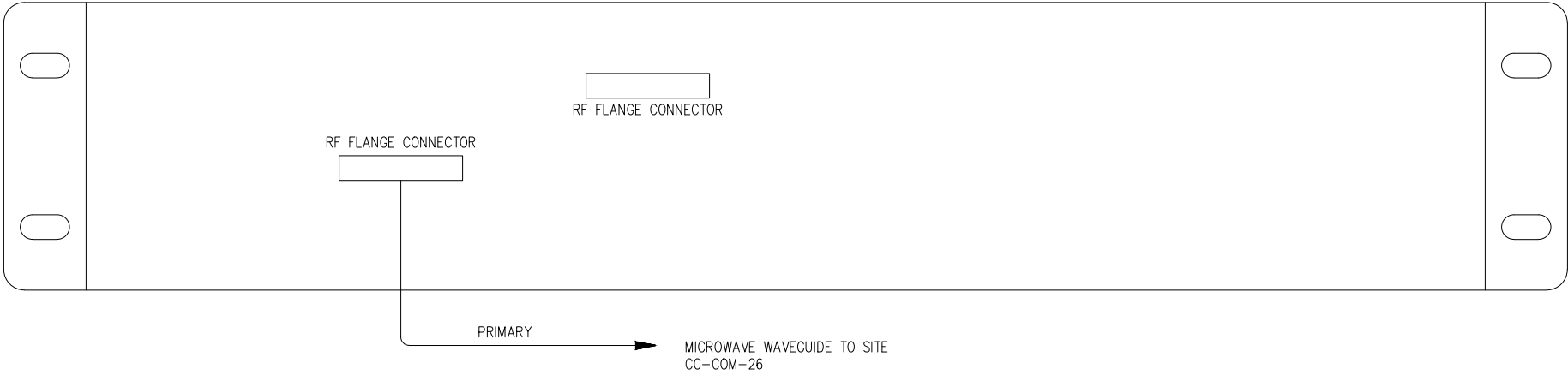
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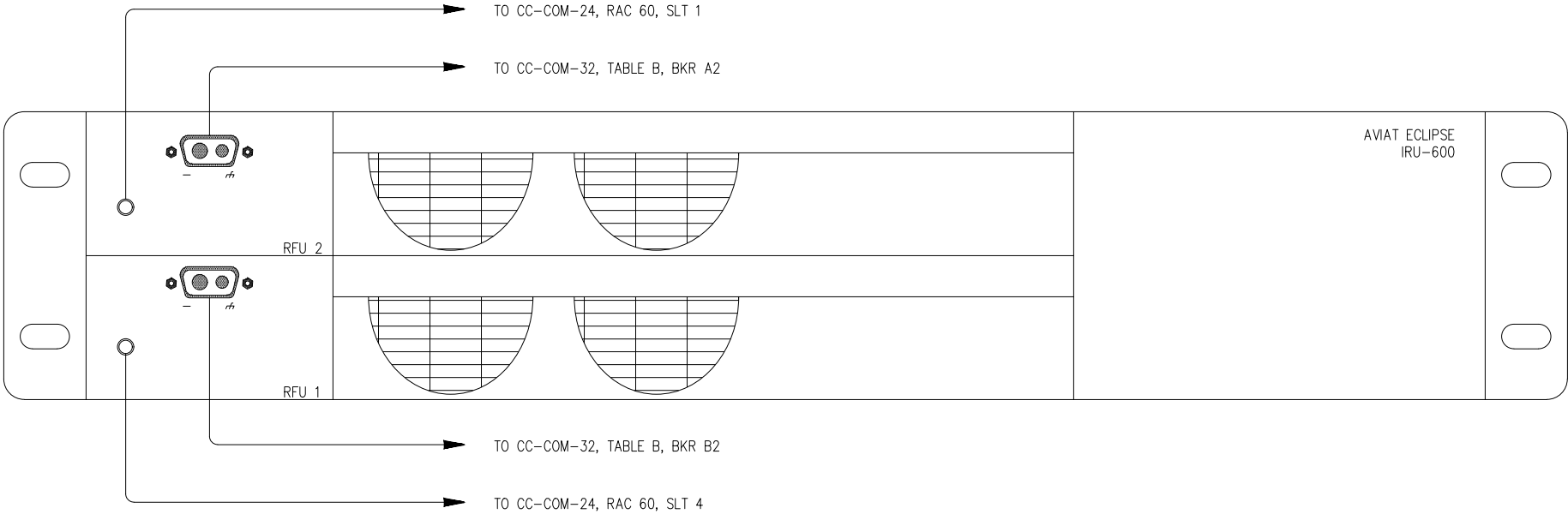
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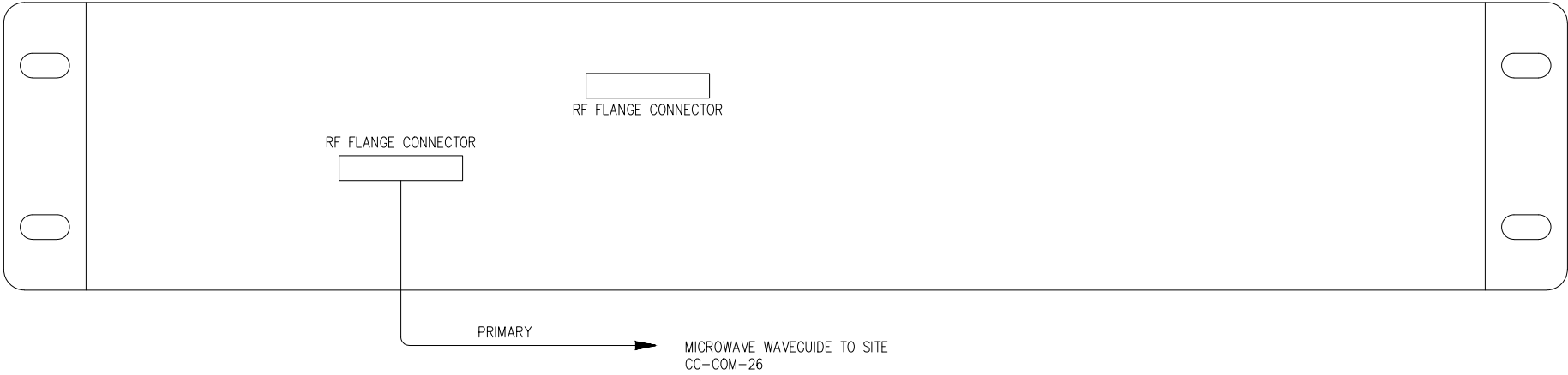
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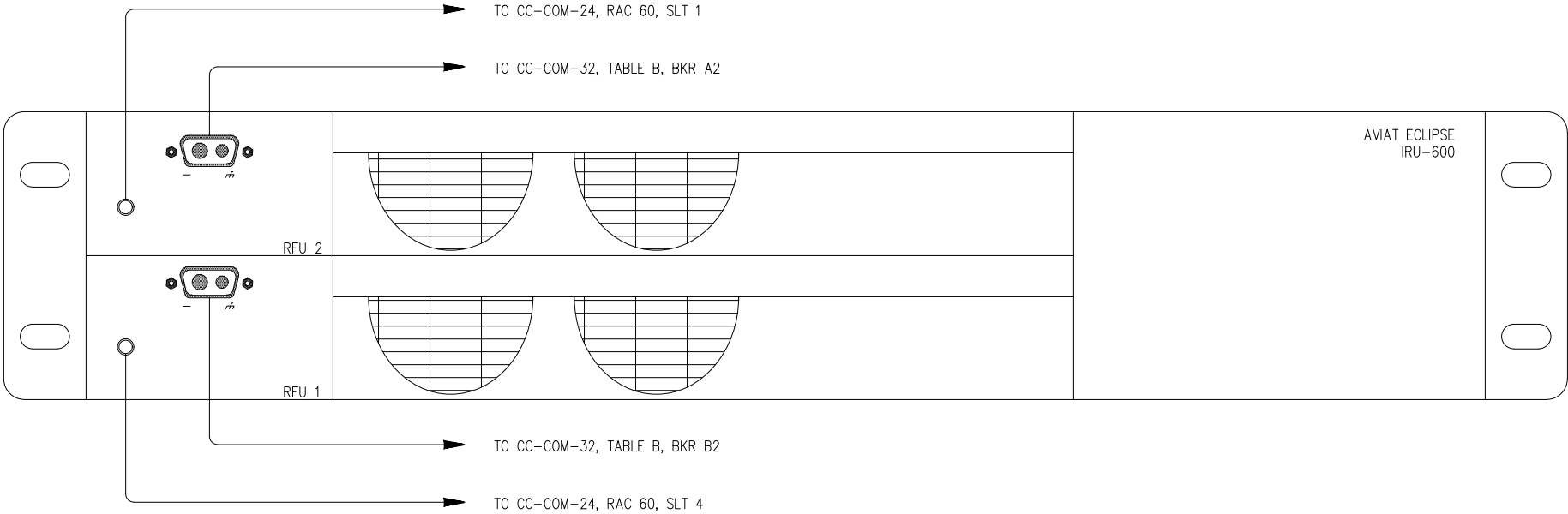
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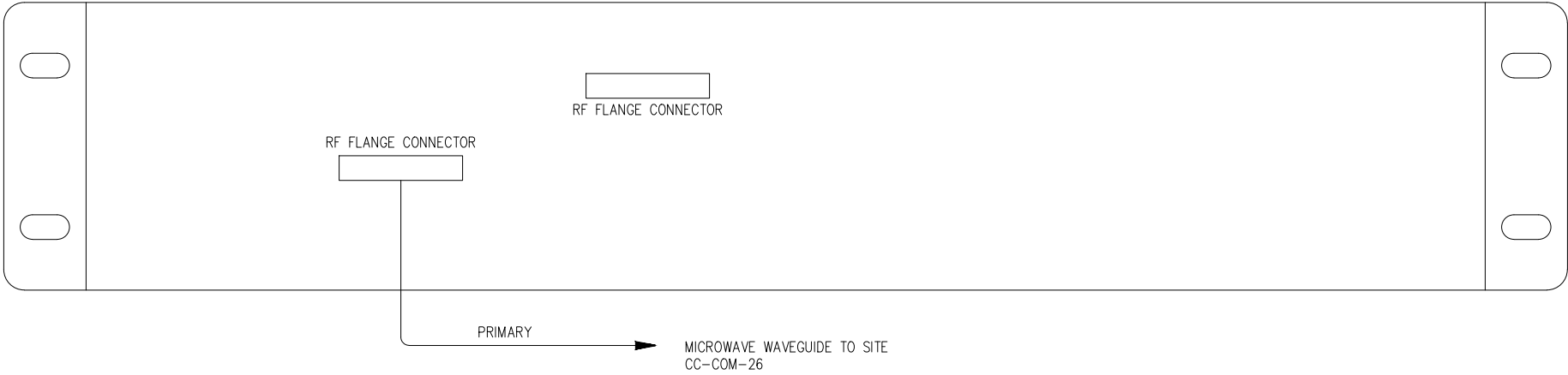
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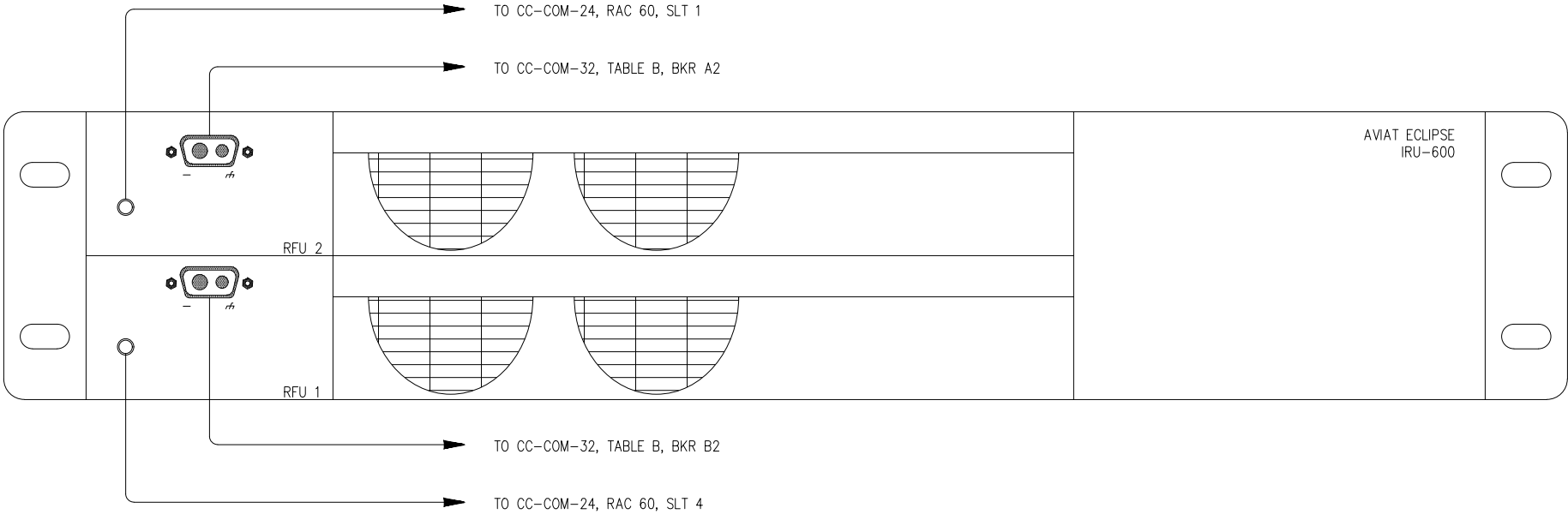
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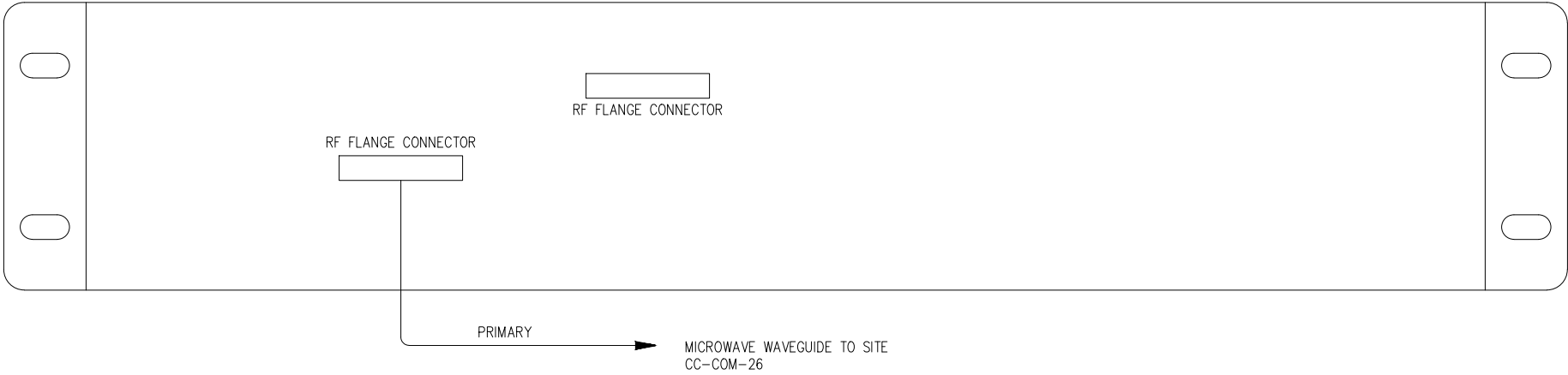
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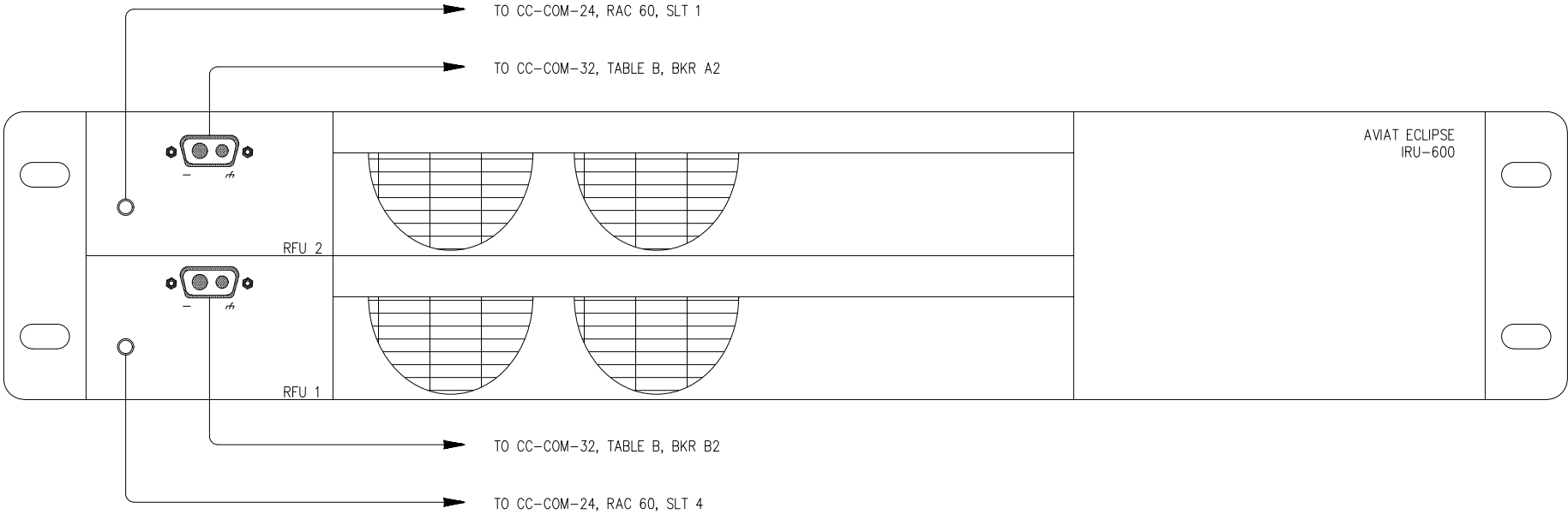
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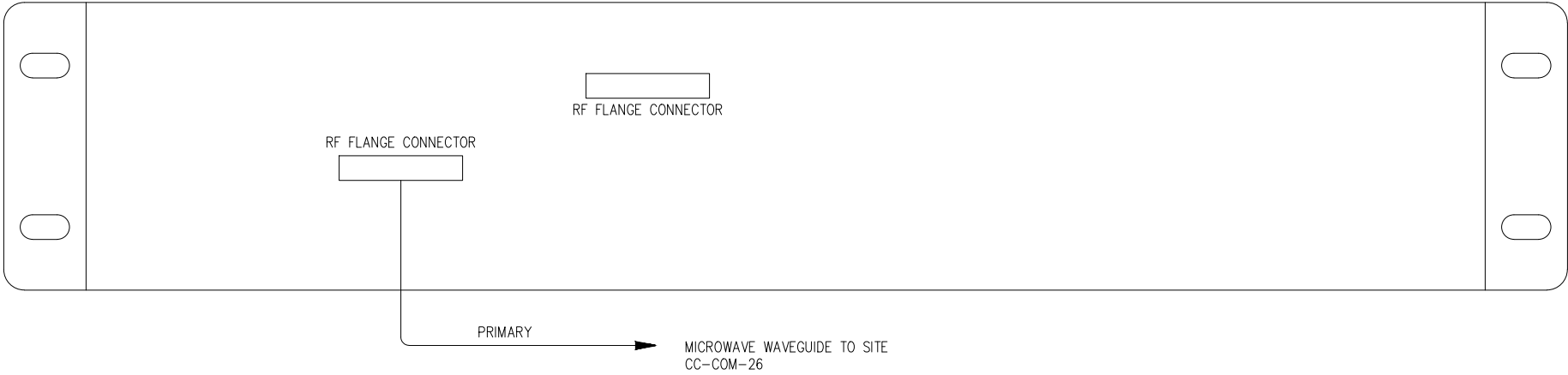
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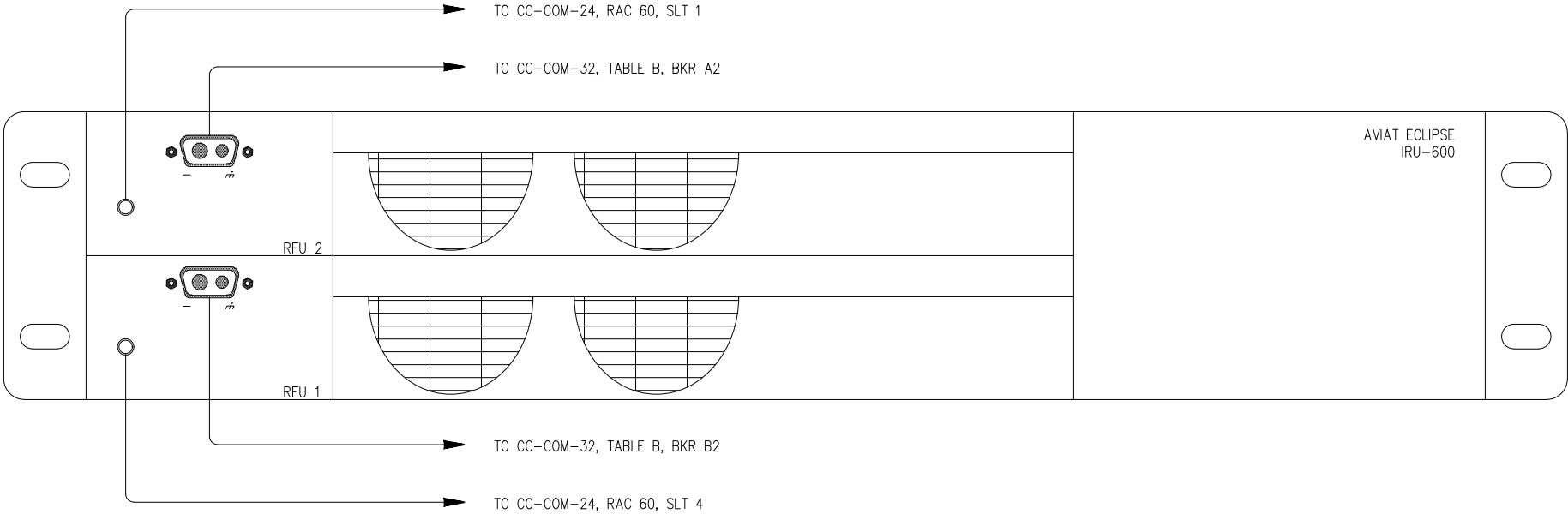
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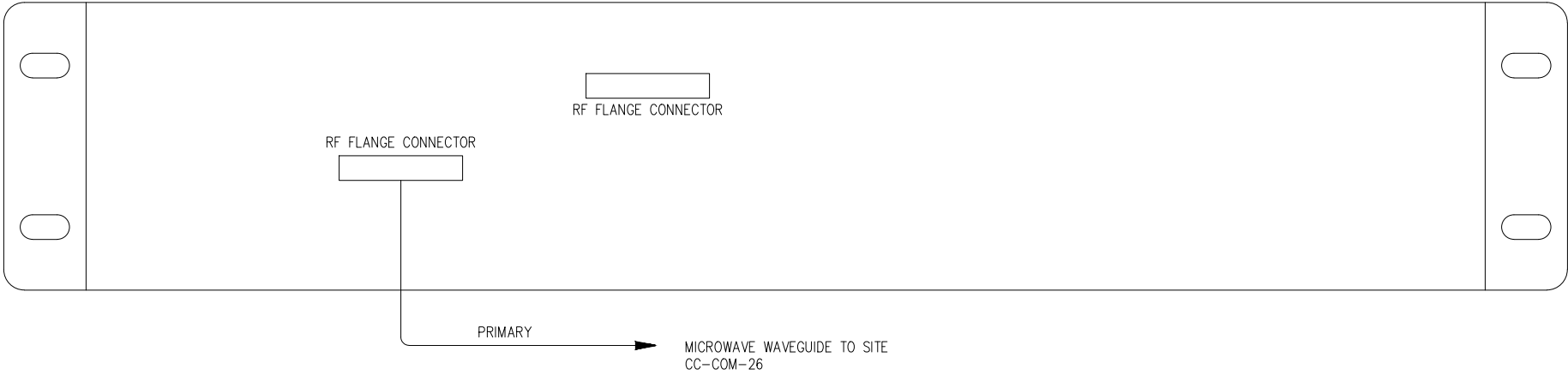
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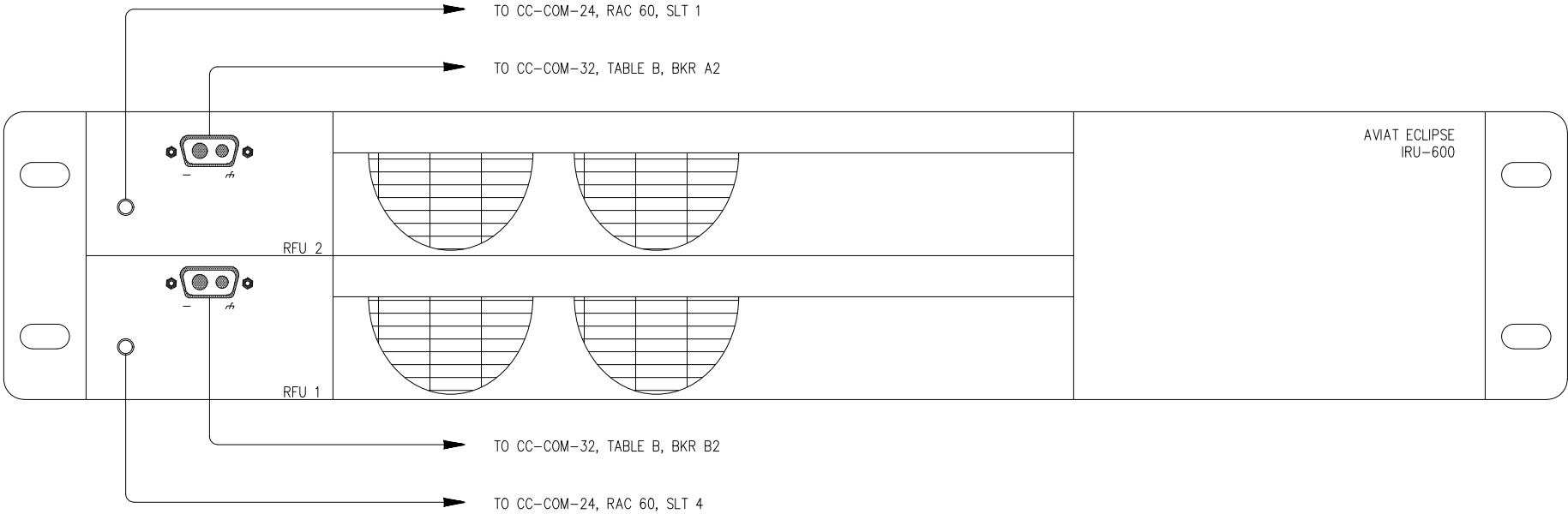
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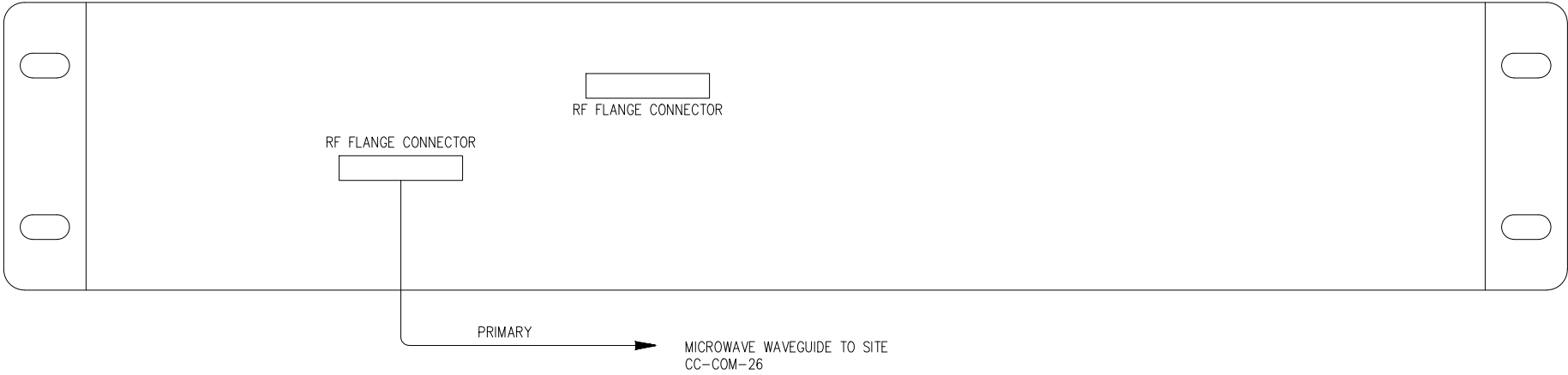
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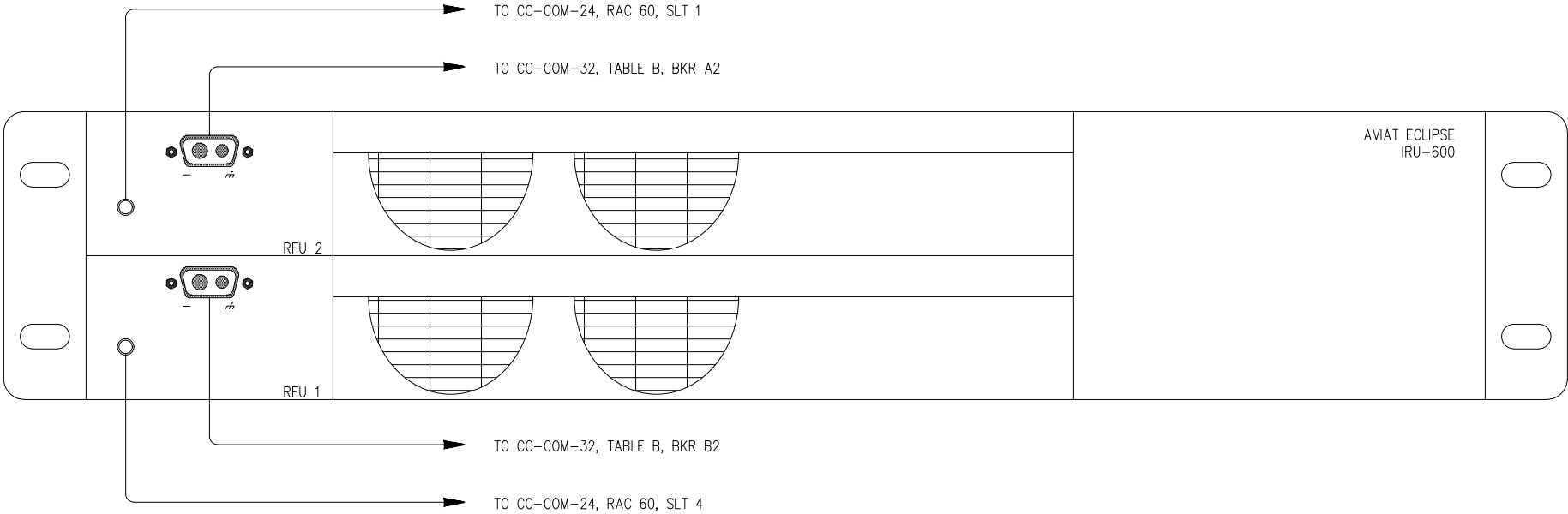
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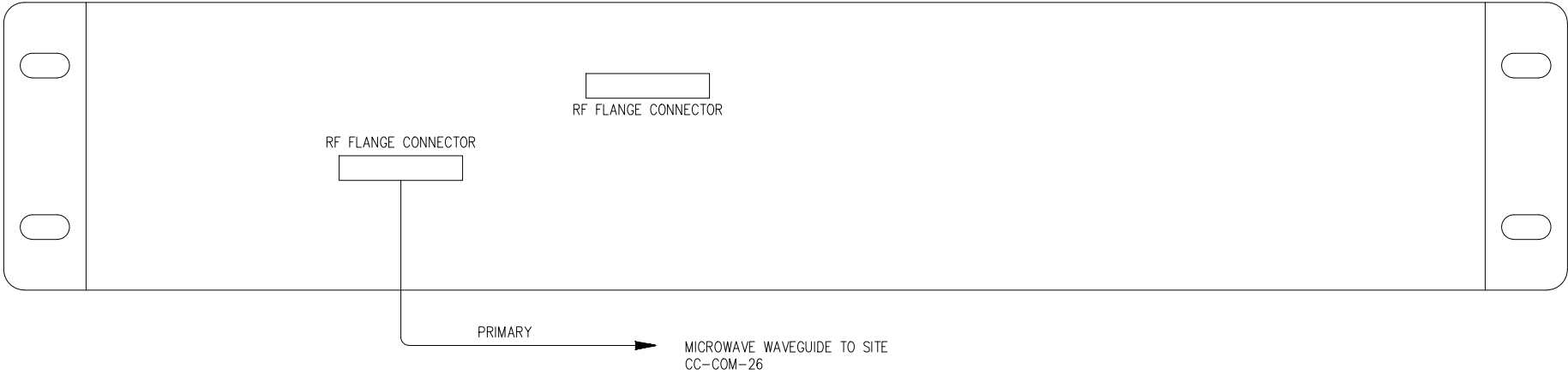
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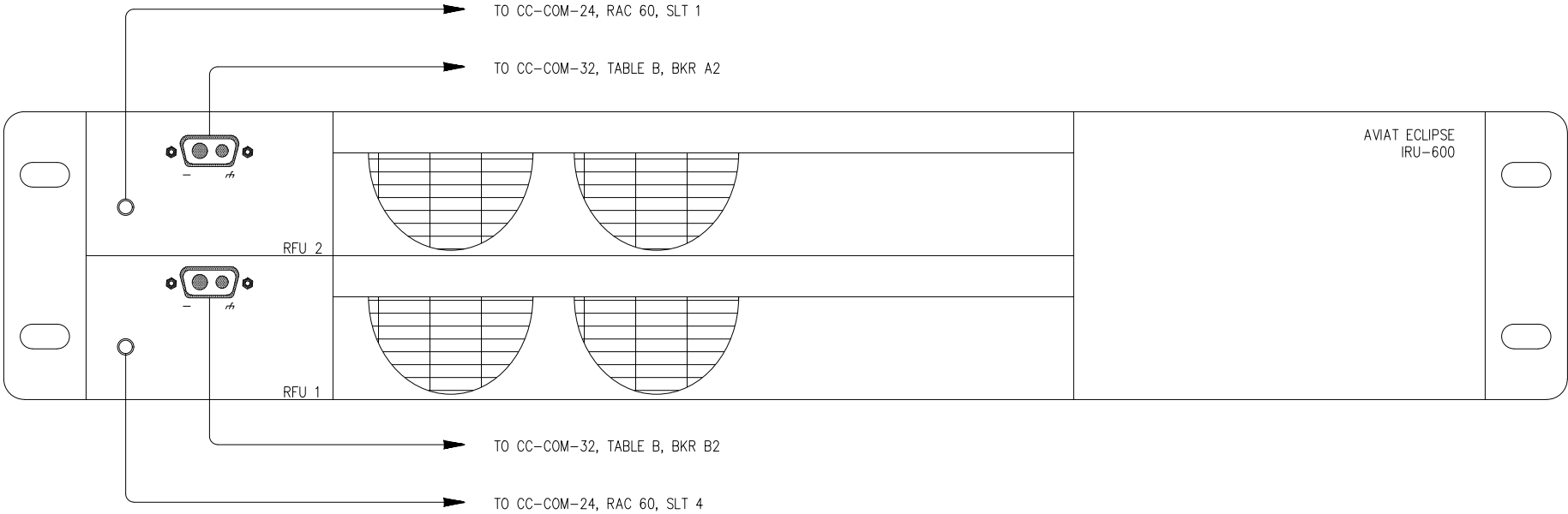
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
FRONT VIEW



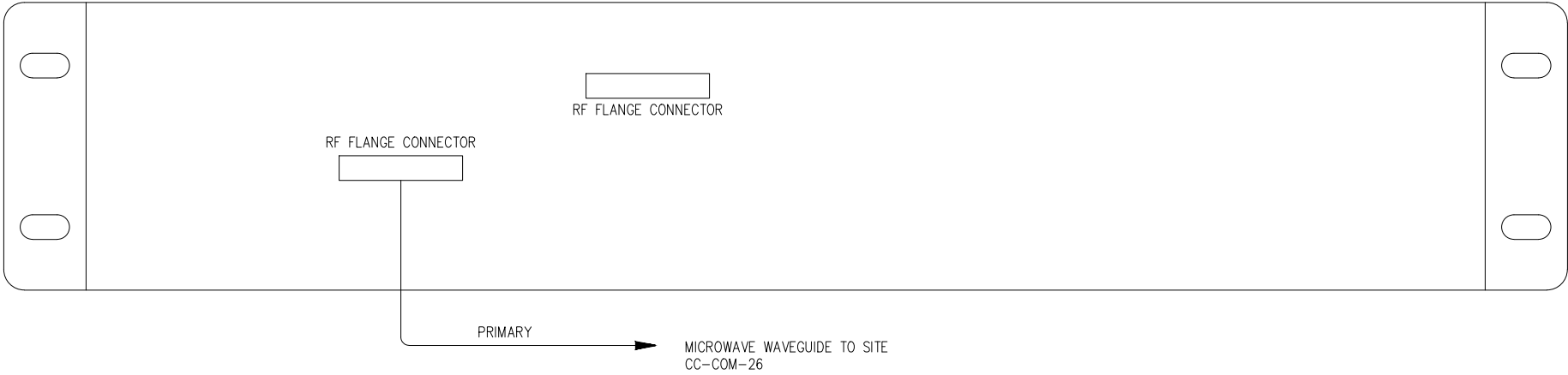
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
REAR VIEW



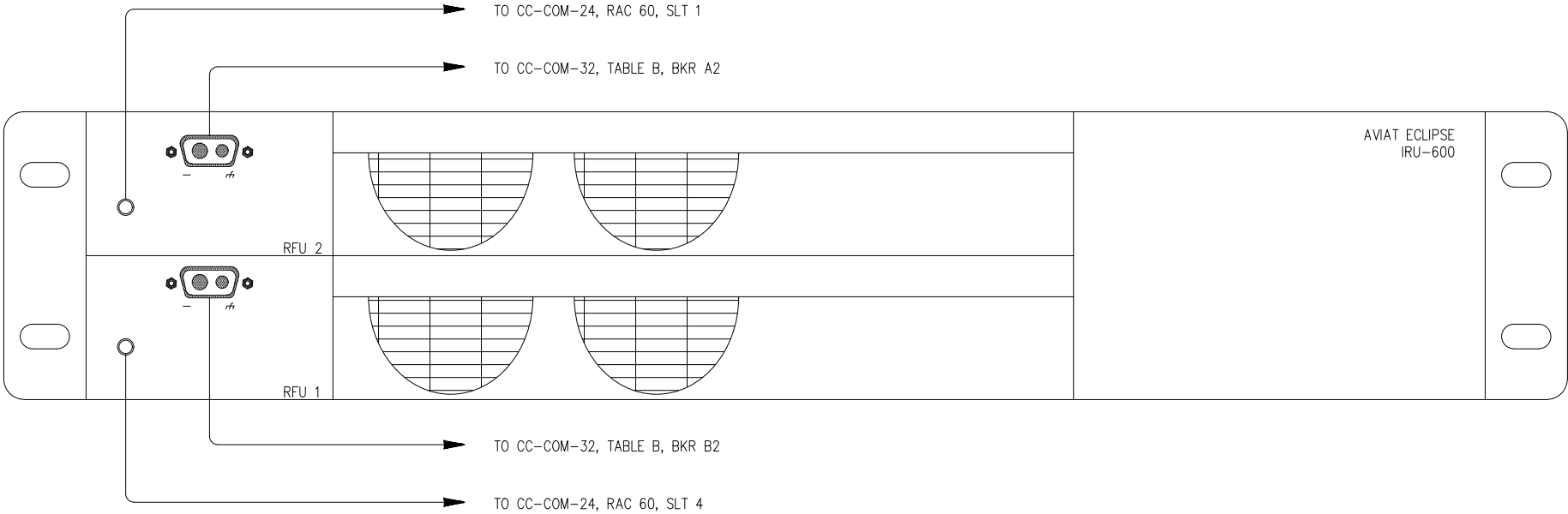
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
FRONT VIEW



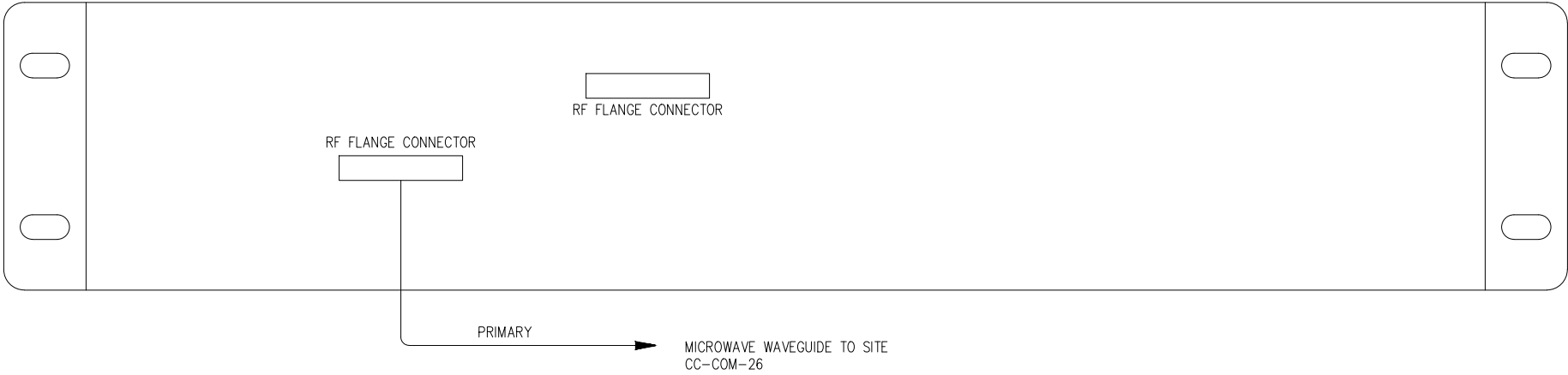
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
REAR VIEW



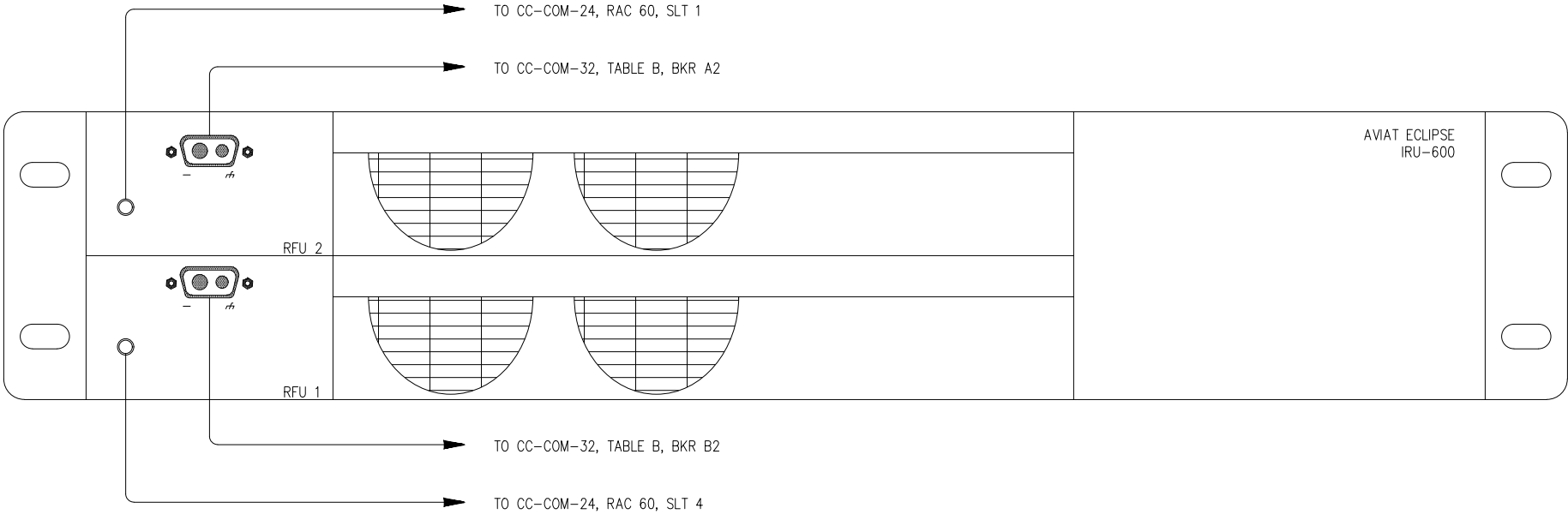
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
FRONT VIEW



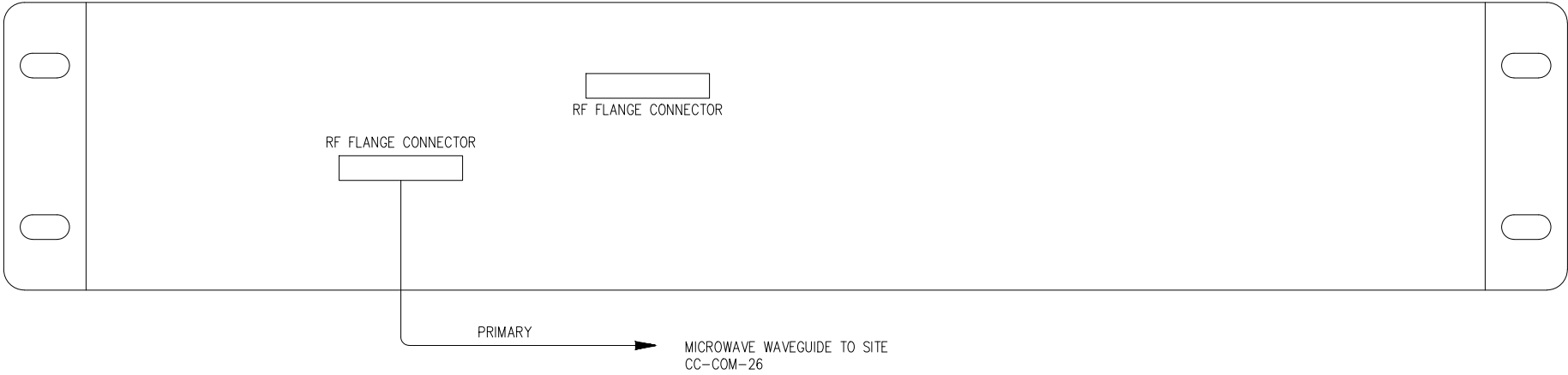
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
REAR VIEW



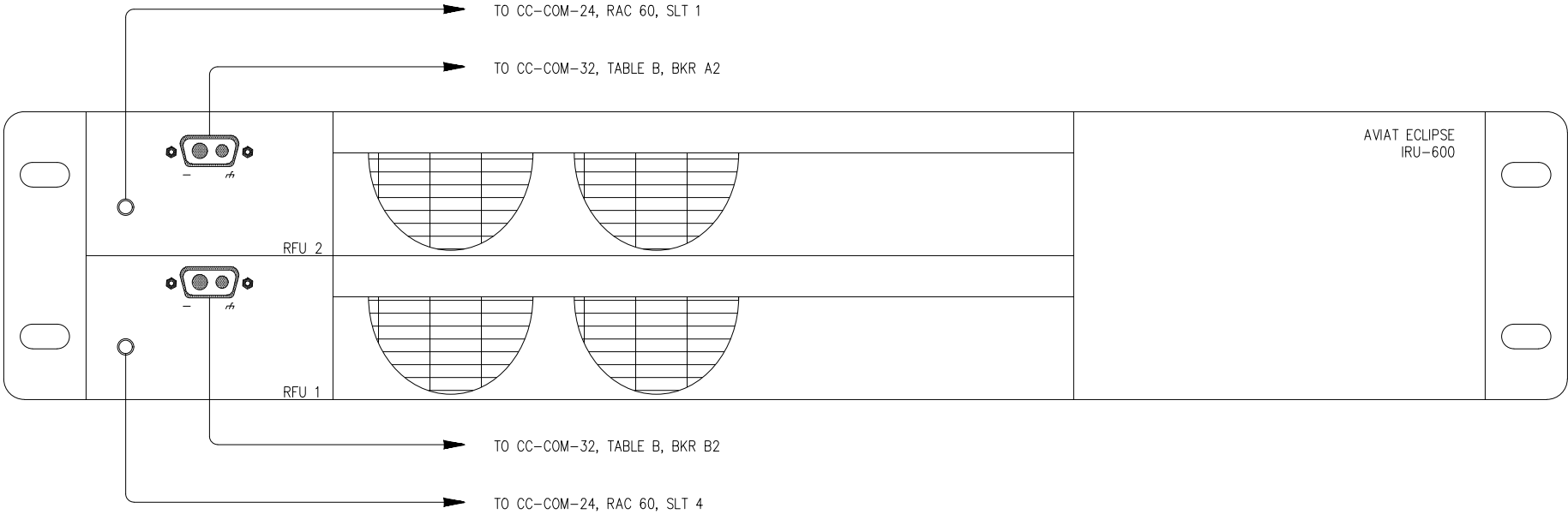
AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
FRONT VIEW

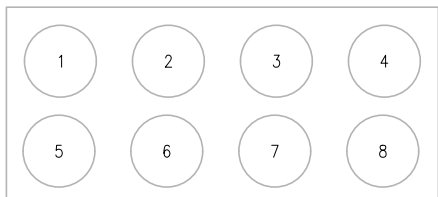


AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
REAR VIEW



AVIAT - ECLIPSE MICROWAVE RF UNIT (SITE TO SITE)
FRONT VIEW





DETAIL 2

8 PORT ENTRY PANEL

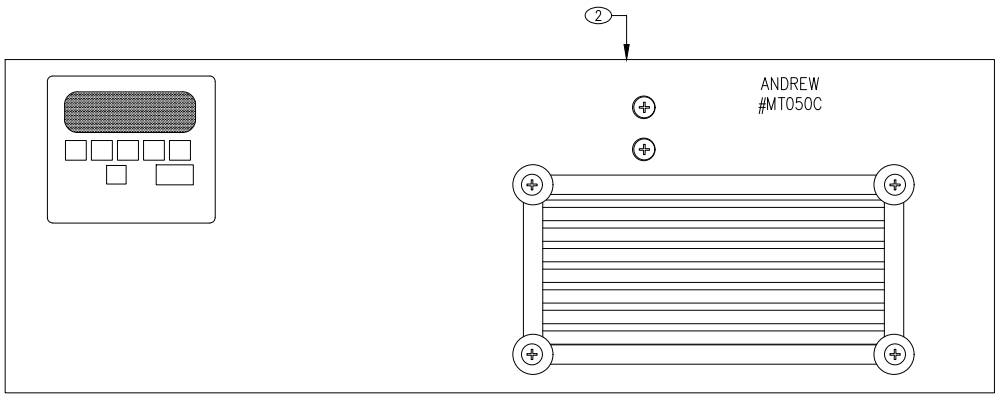
ENTRY PORT ASSIGNMENTS

Item	Description	Qty	Model/PN	UI	Vendor
1	6 GHz Microwave Antenna (6ft)	1	HX6-59W6GR	EA	Commscope
2	6" Step Twist (If Required)	1	TBD	EA	Penn Engineering
3	8 Port Entry Panel	2	NA	EA	Provided by Building Manufacturer
4	6GHz Waveguide	1	EW63	EA	Commscope
5	EW63 Connector Kit	2	TBD	EA	Talley
6	Hoisting Grip	1	TBD	EA	Talley
7	EW63 Ground Lead Kits	3	TBD	EA	Site Pro
8	4" Cushion Kit	3	TBD	5 PK	Site Pro
9	5" Entry Boot Kit	2	TBD	EA	Site Pro
10	EW63 Connector Kit	1	TBD	EA	Commscope
11	4"x20"x¼"Copper Ground Bar	1	TBD	EA	Site Pro
12	CPR137 Pressure Window	1	TBD	EA	Talley
13	3/8" All Thread for Ceiling Support	1	TBD	10 FT	Fastenal
14	3' CPR137 Twist Flex	1	TBD	EA	Talley
15	3/8" Airline Kit	15	TBD	FT	Talley

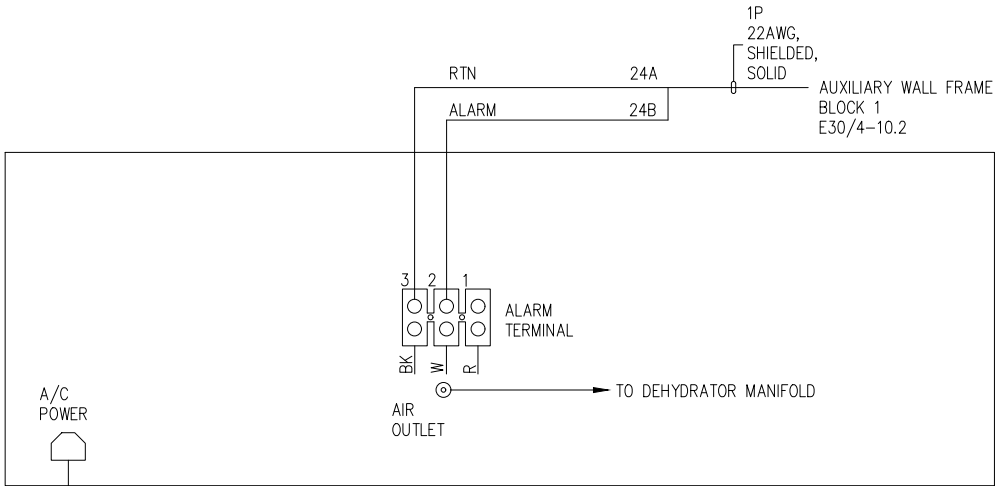
No.	Size	Use
1	EW63	6GHz MW to Oregon Peak
2	OPEN	Not Used
3	OPEN	Not Used
4	OPEN	Not Used
5	OPEN	Not Used
6	OPEN	Not Used
7	OPEN	Not Used
8	OPEN	Not Used

REVISED:09.18.07.D. HURLEY

FILE LOCATION:X:\RTG Clients\GPA\Project 3843\Cottage Creek\CC-COM-27 (R0) SH1 SAVED BY:(STERLIN) 6/27/2020 6:48 PM PLOTTED BY:(STERLIN) 6/27/2020 7:00 PM



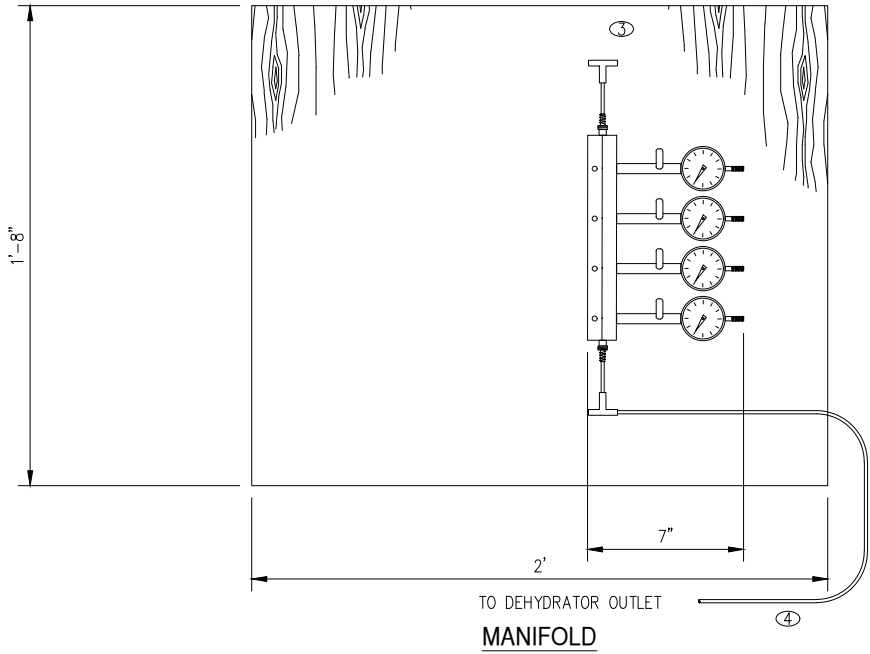
FRONT VIEW



REAR VIEW

① A/C POWER
PLUG INTO WALL
OUTLET

TERMINAL ASSIGNMENTS			
WIRE	TERMINAL	WIRE COLOR	ALARM FUNCTION
	1	RED	SUMMARY N.O.
	2	WHITE	SUMMARY COM
	3	BLACK	SUMMARY NC



KEYED NOTES:

- SUPPLIED IN INSTALLATION KIT. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- INSTALLED ON SHELF PART AE10D-D16658-100
- PLYWOOD WALLBOARD PAINTED WHITE WITH FIRE RETARDANT PAINT.
- 3/8 INCH POLYETHYLENE & FITTING TUBING PROVIDED WITH DEHYDRATION SYSTEM. BUILDER TO PROVIDE "T" AND OTHER FITTINGS AS REQUIRED.



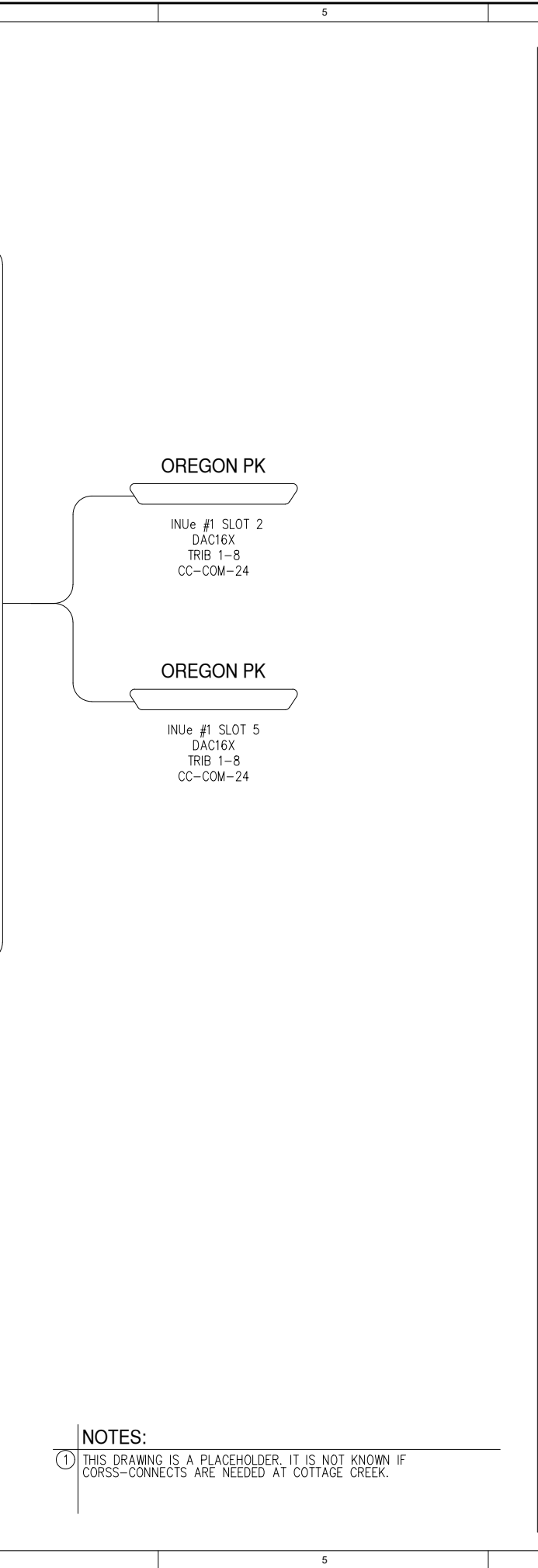
COMMUNICATIONS

GPA PROJECT # 3843	
DATE 12/02/2019	DES. GPA
ENG. JHUNAR	CR. RTG
SHEET 1 OF 1	SCALE 1/4"=1'-0"

YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
EQUIPMENT WIRING DIAGRAM
DEHYDRATOR SHELF

CC-COM-27

REVISION
0



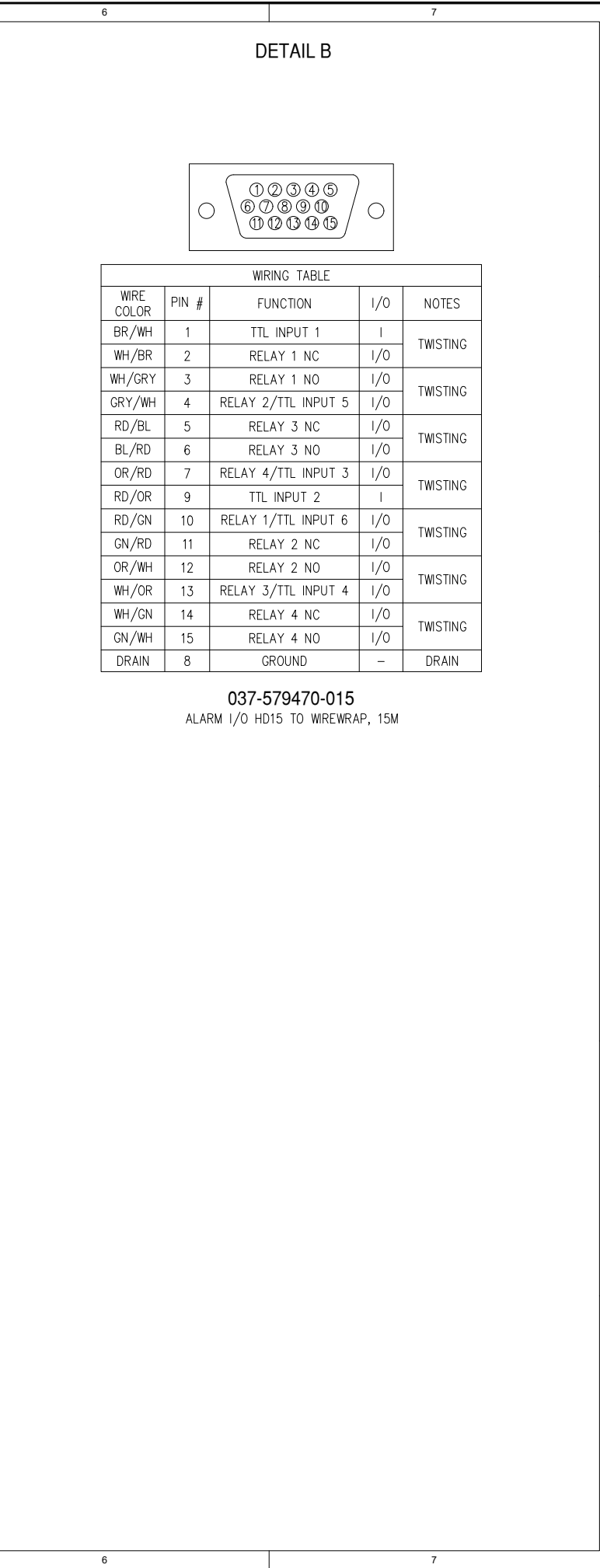
The diagram illustrates two OREGON PK units connected to a central vertical line. Each unit is represented by a rounded rectangle containing the following text:

- OREGON PK
- INUe #1 SLOT 2
- DAC16X
- TRIB 1-8
- CC-COM-24

The units are connected to the central line via curved lines. The top unit is connected to the line at the top, and the bottom unit is connected to the line at the bottom.

	5	
--	---	--

The diagram shows two locations connected by a line. The top location is labeled "OREGON PK" and contains the text "INUe #1 SLOT 2", "DAC16X", "TRIB 1-8", and "CC-COM-24". The bottom location is also labeled "OREGON PK" and contains the text "INUe #1 SLOT 5", "DAC16X", "TRIB 1-8", and "CC-COM-24".



6

7

DETAIL B

WIRING TABLE				
WIRE COLOR	PIN #	FUNCTION	I/O	NOTES
BR/WH	1	TTL INPUT 1	I	TWISTING
WH/BR	2	RELAY 1 NC	I/O	
WH/GRY	3	RELAY 1 NO	I/O	TWISTING
GRY/WH	4	RELAY 2/TTL INPUT 5	I/O	
RD/BL	5	RELAY 3 NC	I/O	TWISTING
BL/RD	6	RELAY 3 NO	I/O	
OR/RD	7	RELAY 4/TTL INPUT 3	I/O	TWISTING
RD/OR	9	TTL INPUT 2	I	
RD/GN	10	RELAY 1/TTL INPUT 6	I/O	TWISTING
GN/RD	11	RELAY 2 NC	I/O	
OR/WH	12	RELAY 2 NO	I/O	TWISTING
WH/OR	13	RELAY 3/TTL INPUT 4	I/O	
WH/GN	14	RELAY 4 NC	I/O	TWISTING
GN/WH	15	RELAY 4 NO	I/O	
DRAIN	8	GROUND	—	DRAIN

037-579470-015

ALARM I/O HD15 TO WIREWRAP, 15M

6

7

6

7

DETAIL B

WIRING TABLE				
WIRE COLOR	PIN #	FUNCTION	I/O	NOTES
BR/WH	1	TTL INPUT 1	I	TWISTING
WH/BR	2	RELAY 1 NC	I/O	
WH/GRY	3	RELAY 1 NO	I/O	TWISTING
GRY/WH	4	RELAY 2/TTL INPUT 5	I/O	
RD/BL	5	RELAY 3 NC	I/O	TWISTING
BL/RD	6	RELAY 3 NO	I/O	
OR/RD	7	RELAY 4/TTL INPUT 3	I/O	TWISTING
RD/OR	9	TTL INPUT 2	I	
RD/GN	10	RELAY 1/TTL INPUT 6	I/O	TWISTING
GN/RD	11	RELAY 2 NC	I/O	
OR/WH	12	RELAY 2 NO	I/O	TWISTING
WH/OR	13	RELAY 3/TTL INPUT 4	I/O	
WH/GN	14	RELAY 4 NC	I/O	TWISTING
GN/WH	15	RELAY 4 NO	I/O	
DRAIN	8	GROUND	—	DRAIN

037-579470-015

ALARM I/O HD15 TO WIREWRAP, 15M

6

7

[illegible]

REVISED:09.18.07D. HURLEY

A

B

C

D

E

F

A

B

C

D

E

F

YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
DSX CROSSCONNECT PLAN

REVISION
0

CC-COM-29

1 OF 1

COMMUNICATIONS

GP&A PROJECT #3843

DATE12/02/2019

ENGJUNJARRTG

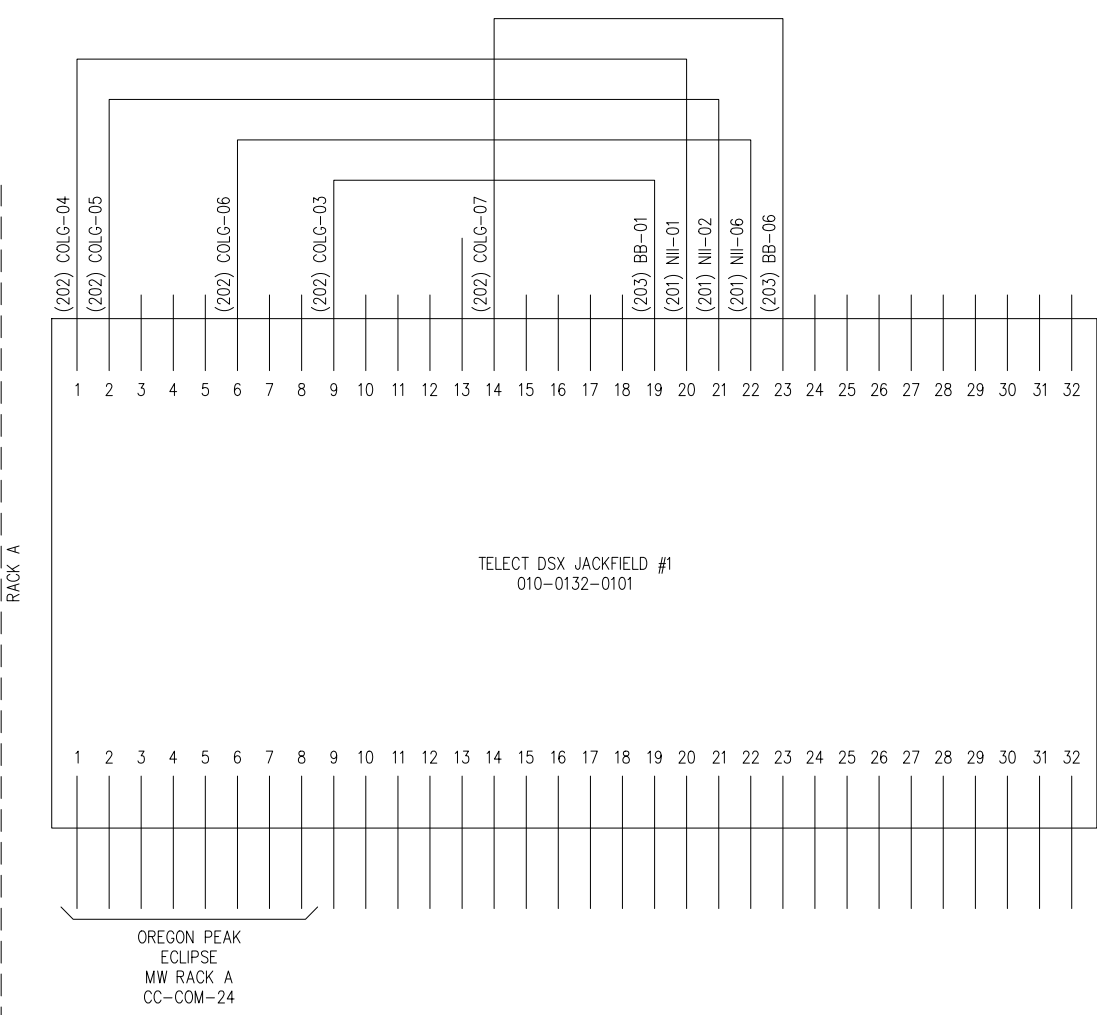
DESCH

SCALE1/4"=1'-0"



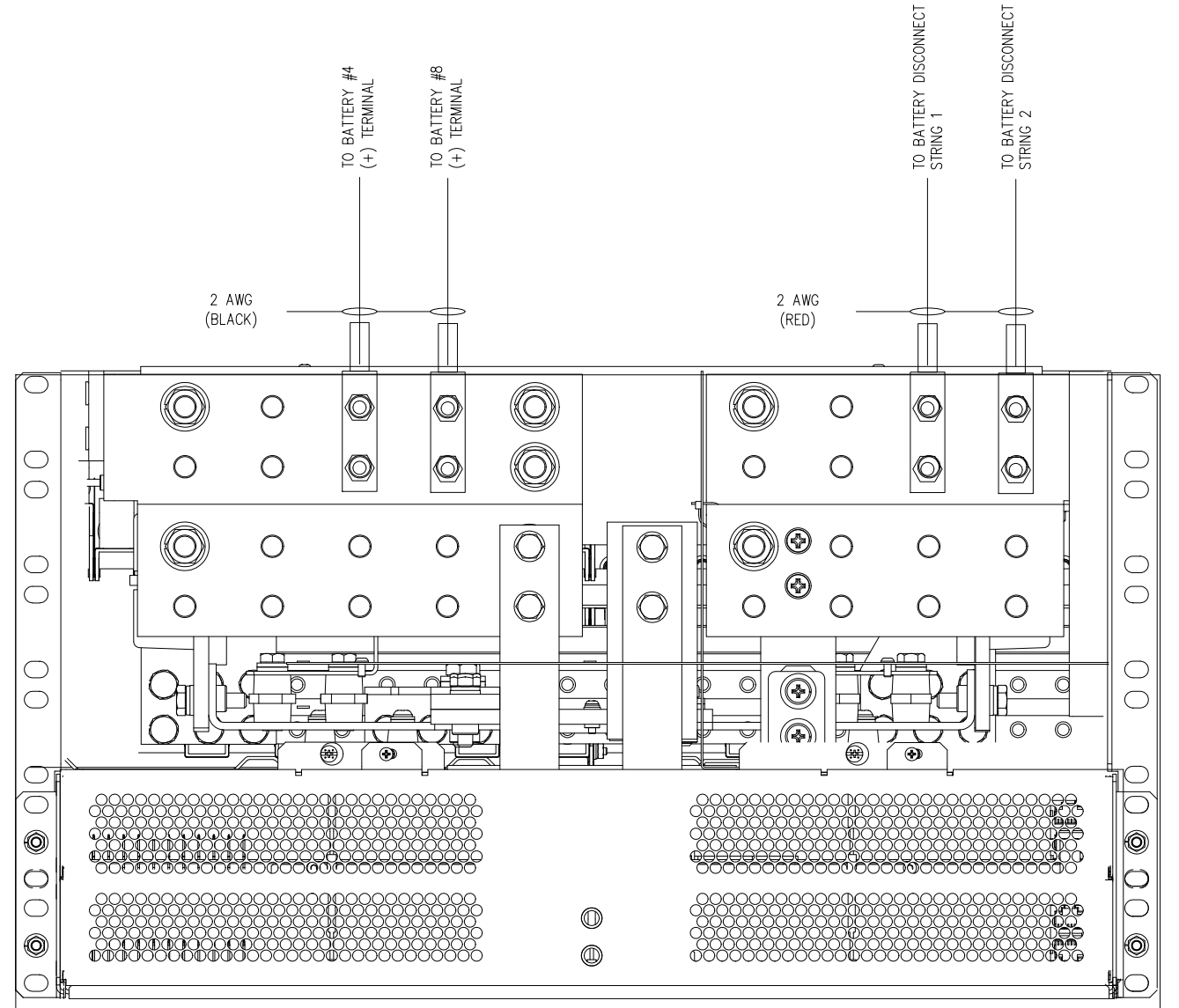
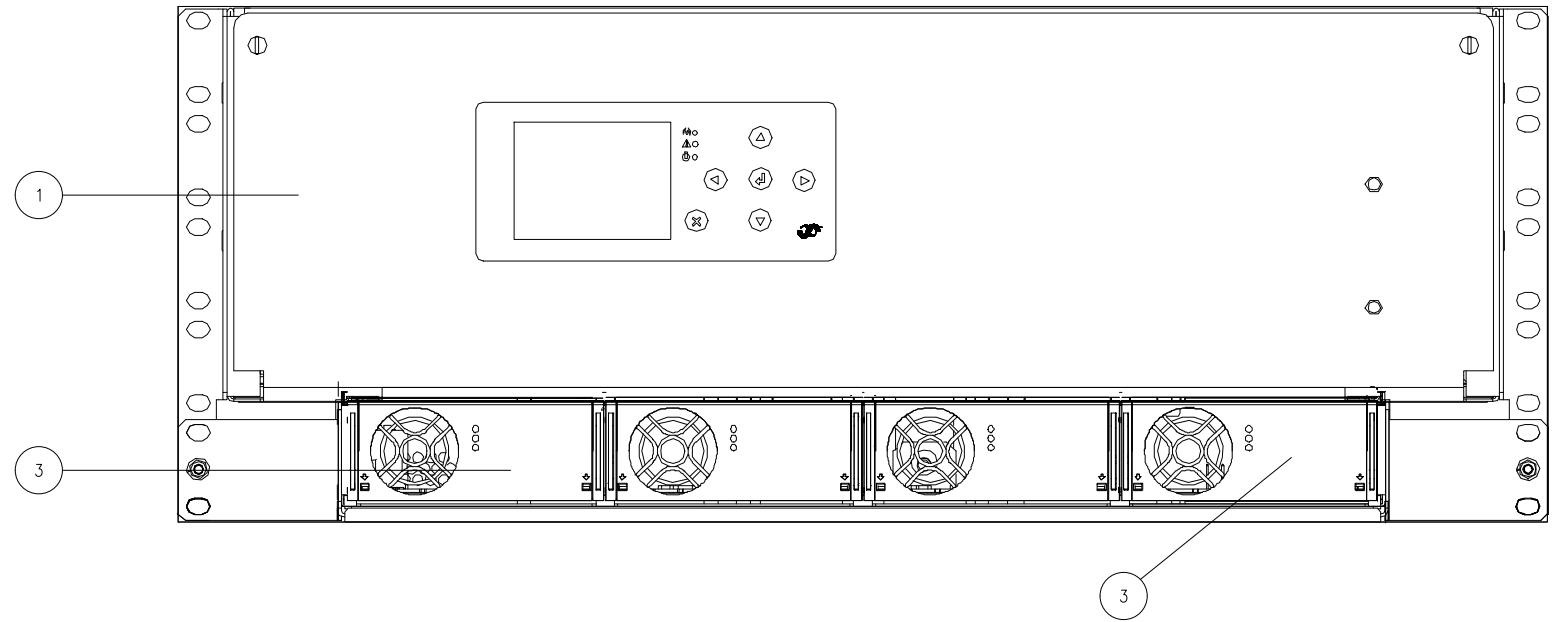
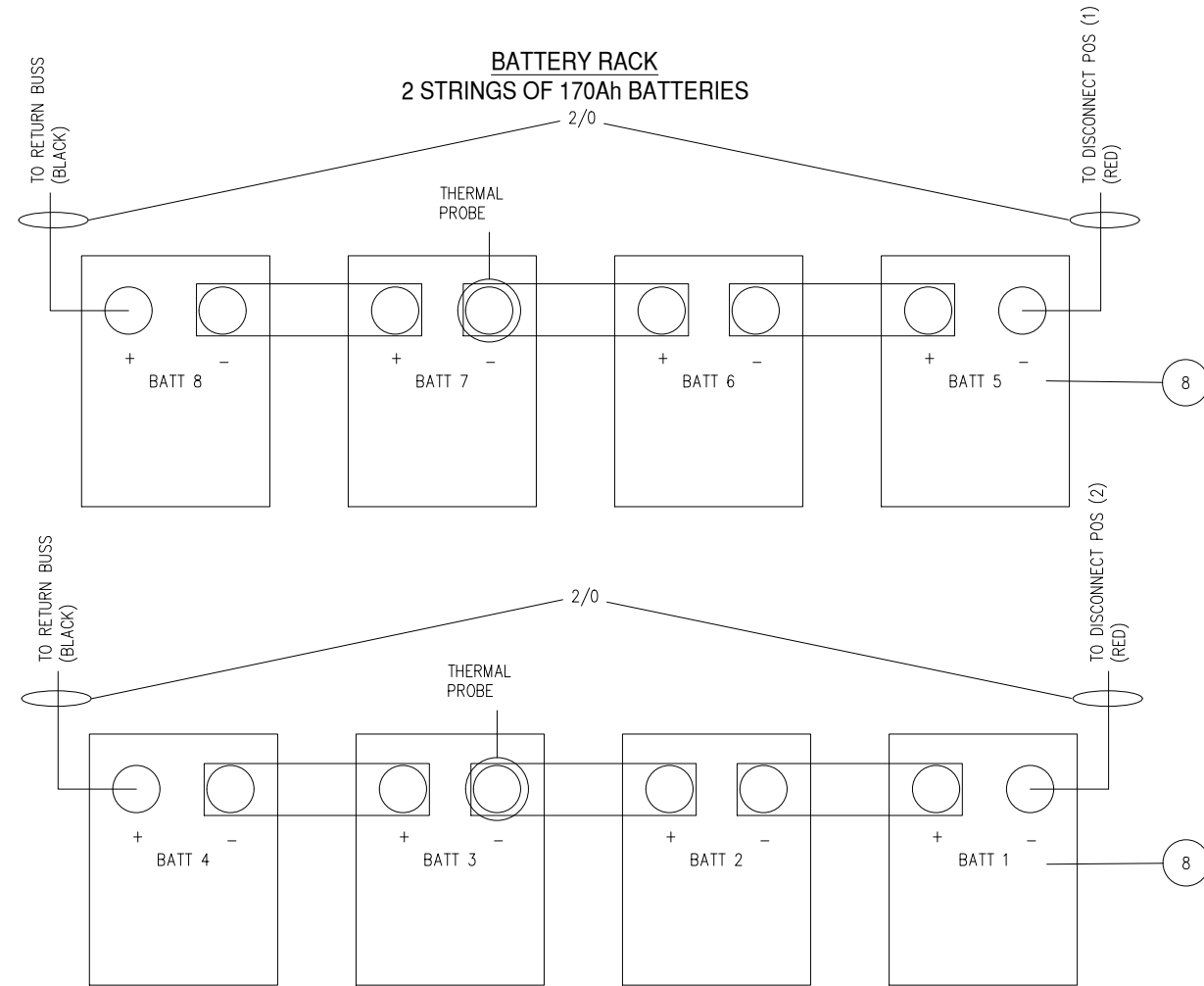
NO.	DATE

ENGINEER	DES./DR.	CHECKED	APPROVED



DC Plant and Battery System

Item	Description	Qty	Model/PN	UI	Vendor
1	Flatpack 2 System	1	TBD	EA	Eltek
2	Blind Panel	1	331E23640800	EA	Eltek
3	Flatpack 2 HE Rectifier 2000W –48VDC	3	241115.105	EA	Eltek
4	Bullet Breaker (10A)	12	502653	EA	Eltek
5	Bullet Breaker (5A)	5	0831062004	EA	Eltek
6	Bullet Breaker (20A)	5	0831062104	EA	Eltek
7	Battery Breaker (100A)	1	083E5026600	EA	Eltek
8	Battery (170Ah)	8	170FT	EA	ENERSYS
9					
10					
11					
12					
13					
14					
15					

[illegible]

[illegible]

10 AWG GROUND (GREEN) CC-COM-30 (-) TABLE A CB 12 (RED) 10 AWG CC-COM-30 (-) TABLE A CB 11 (RED) 10 AWG GROUND (GREEN)

BUS B		
FUSE SIZE	EQUIPMENT/DESTINATION	BUS/POSITION
20A	CC-COM-24 NPC	B/1
10A	CC-COM-25 RFU 600 B	B/2
		B/3
		B/4
		B/5
		B/6

BREAKER ASSIGNMENT



-48VDC DISTRIBUTION BREAKER PANEL RACK D		
POS	AMP	DESTINATION
1	100	D2 B1F - BATTERY STRING #1
2	100	D3 B1N - BATTERY STRING #2
3	100	FUTURE BATTERY STRING
4	100	FUTURE BATTERY STRING
5	30	
6	30	
7	30	
8	30	
9	30	
10	30	
11	30	TRIMM PANEL SIDE A
12	30	TRIMM PANEL SIDE B
13	20	
14	20	
15	20	
16	20	
17	20	
18	20	
19	20	
20	FUT	
21	FUT	
22	FUT	
23	FUT	
24	FUT	

TABLE B					
-48VDC TRIM BREAKER PANEL RACK A					
A SIDE			B SIDE		
POS	AMP	DESTINATION	POS	AMP	DESTINATION
A1	20	INUE NCC	B1	20	INUE NPC
A2	10	RFU 600 A	B2	10	RFU 600 B
A3			B3		
A4			B4		
A5			B5		
A6	1	DSX PANEL	B6		

TABLE C			
POWER ALARM CABLE			DESTINATION
A	NC	OR/WT STRIPE	WALL MTD ALM T.S.
(POWER	C	OR	WALL MTD ALM T.S.
MAJOR)	NO	OR/BK STRIPE	WALL MTD ALM T.S.
B	NC	RD/WT STRIPE	WALL MTD ALM T.S.
(POWER	C	RD	WALL MTD ALM T.S.
MINOR)	NO	RD/BK STRIPE	WALL MTD ALM T.S.
C	NC	GN/WT STRIPE	WALL MTD ALM T.S.
(AC	C	GN	WALL MTD ALM T.S.
FAIL)	NO	GN/BK STRIPE	WALL MTD ALM T.S.
D	NC	YL/WT STRIPE	WALL MTD ALM T.S.
(BD)	C	YL	WALL MTD ALM T.S.
	NO	YL/BK STRIPE	WALL MTD ALM T.S.
E	NC	BL/WT STRIPE	WALL MTD ALM T.S.
(LVD	C	BL	WALL MTD ALM T.S.
OPEN)	NO	BL/BK STRIPE	WALL MTD ALM T.S.
F	NC	TAN/WT STRIPE	WALL MTD ALM T.S.
(FUSE/CB	C	TAN	WALL MTD ALM T.S.
OPEN)	NO	TAN/BK STRIPE	WALL MTD ALM T.S.
INPUT ALM	NOT USED	WH	WALL MTD ALM T.S.
INPUT ALM	NOT USED	BK	WALL MTD ALM T.S.
	NC	CONTACT OPENS ON ALARM	
	C	COMMON	
	NO	CONTACT CLOSSES ON ALARM	

[illegible]

REVISED 09.18.07 D. HURLEY

FILE LOCATION:X:\RTG Clients\GPA\Yuba_3928\Cottage Creek\CC-COM-33 (RE) SH11
SAVED BY:STERLINJ
2/4/2021 11:58 AM
PLOTTED BY:STERLINJ
2/4/2021 4:29 PM

A
B
C
D
E
F

LEGEND

INDICATES EXOTHERMIC WELD CONNECTION

INDICATES 5/8" X 10'-0" BARE COPPER-CLAD STEEL ROD, DRIVIN UNTIL TOP OF ROD IS 30" BELOW GRADE

INDICATES 2/0 STRANDED TINNED COPPER WIRE BOND EXOTHERMICALLY WELDED TO EXTERIOR RING

INDICATES BOND TO BUS BAR EXOTHERMICALLY WELDED

INDICATES BURIED GROUND CONDUCTORS, 4/0 BARE STRANDED COPPER

PG&E Power Pole A
Lat: 39°23' 25.04"N
Long: 121°8' 2.62"W
Elev: 2390 FT AMSL

PG&E Power Pole B
Lat: 39°23' 23.83"N
Long: 121°8' 3.52"W
Elev: 2372 FT AMSL

Cottage Creek Passive Repeater 3
Info: 8'x12' Panel Reflector
ACL: 35.0'
Lat: 39°23' 24.96"N
Long: 121°8' 1.77"W
Elev: 2408 FT AMSL

DETAIL 'A'
SCALE: 3/16"=1'-0"

NOTES:

1

ALL LAT/LONG ARE APPROXIMATE AND WILL NEED TO BE FIELD VERIFIED.

2

ALL AZIMUTHS WILL BE FIELD VERIFIED BY OPTICAL ALIGNMENT.

COMMUNICATIONS

GPA PROJECT #		3928	
DATE:	JANUARY	12/02/2019	DES: GPA
ENG:	RTG	CHK:	SCALE: 1"=20'-0"

YUBA WATER AGENCY
COTTAGE CREEK COMM SITE
PASSIVE REPEATER SITE
PLAN VIEW

CC-COM-33

SHEET
1 OF 1

REVISION
E

REVISIONS

NO.	DATE	WCH	CHANGE SHEET NO.
A	03/05/20	WCH	CHANGE SHEET NO.
B	04/03/20	WCH	ADDED GROUNDING LEGEND.
C	12/04/20	WCH	MOVE PASSIVE LAT/LONG
D	12/17/20	WCH	CHANGE PER DESIGN TO TOWER
E	03/04/21	WCH	CHANGE LONGITUDE AND ACL OF PASSIVE REPEATER 3

DES./DR.

ENGINEER

CHECKED

APPROVED

R. SMYTHGPA

R. SMYTHGPA

R. SMYTHGPA

R. SMYTHGPA

R. SMYTHGPA

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R. SMYTHGPA

R. SMYTHGPA

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
A0994	TOWER PART NUMBER
L6	LADDER BRACE DETAIL
S2	VERTICAL BRACE DETAIL
3	INTERNAL BRACE DETAIL
M1	ANTENNA MOUNT DETAIL
P2	PLATFORM DRAWING REF. (SEE REF. DRAWING LIST)
IT	HARDWARE DESIGNATION

ROCK ANCHOR FOUNDATION LAYOUT D-136890
ANCHOR BOLT ASSEMBLY..... B-103363
RTM810 REFLECTOR EREC..... D-62921

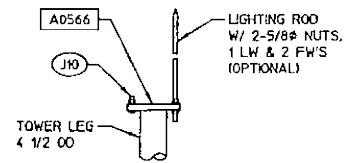
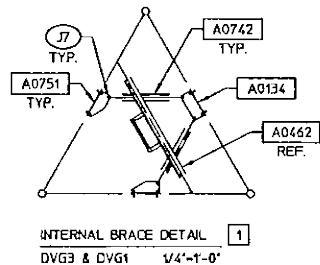
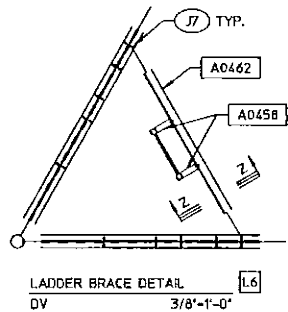
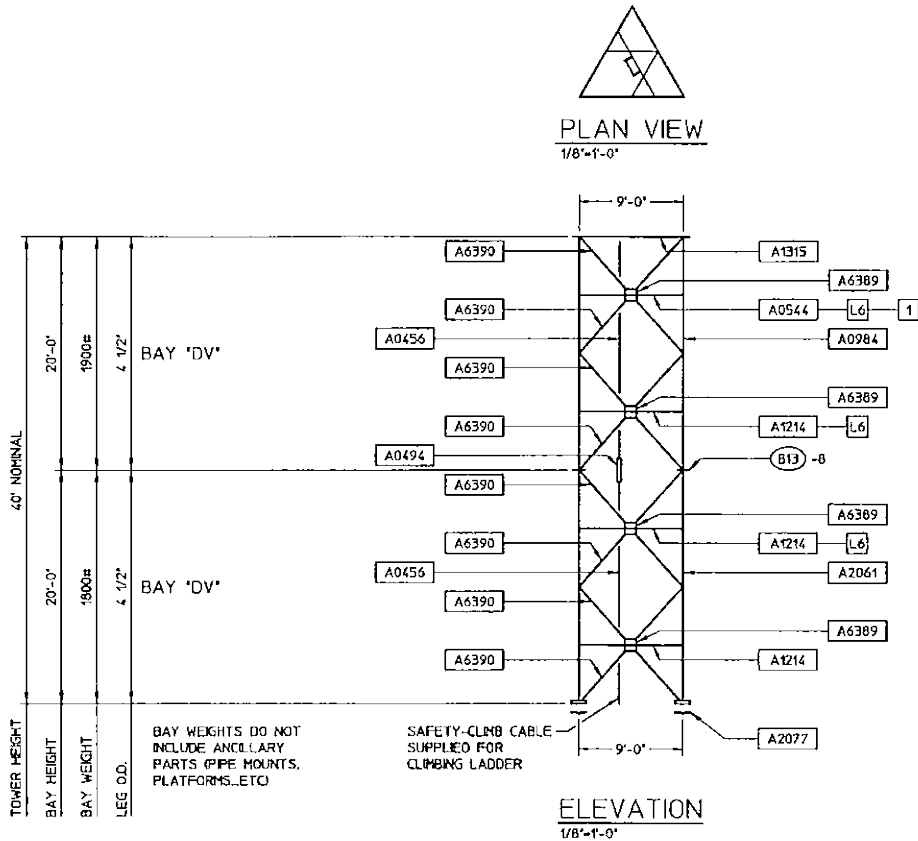
Info: 8'x12' Panel Reflector
ACL: 15' Lat: 39°23' 24.37"N
Long: 121°8' 1.79"W
Elev: 2408 FT AMSL

This foundation design is conceptual in nature and will change based on the results of the Geotechnical Survey for this site. Foundation design will be provided by the Passive Repeater Manufacturer once the tests are complete.

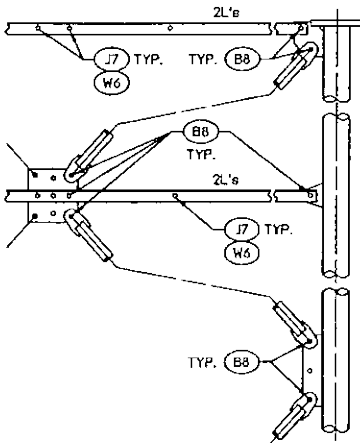
ALL A325 BOLTS ARE TO BE TIGHTENED TO A SNUG TIGHT CONDITION

"A snug tight condition is defined as the tightness that exists when all plates in a joint are in firm contact. This may be attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench."

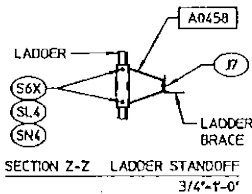
Ref: "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
Manual of Steel Construction, Allowable Stress Design, AISC, 9th Edition, 1989, pg. 5-273. Etc.



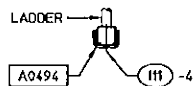
FLANGE CAP & LIGHTNING ROD DETAIL
4 1/2 O.D. LEG 3/4'-1'-0"



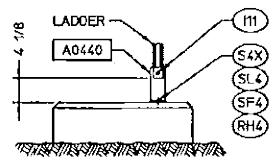
TYPICAL TOWER DETAIL
BAY DV 3/4'-1'-0"



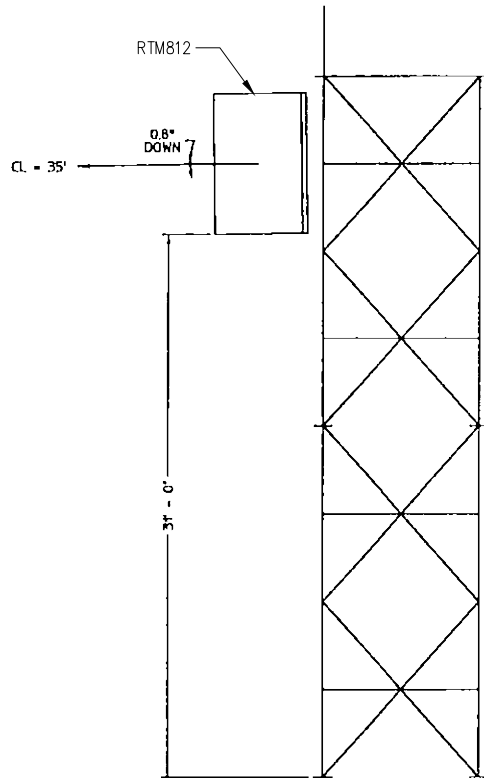
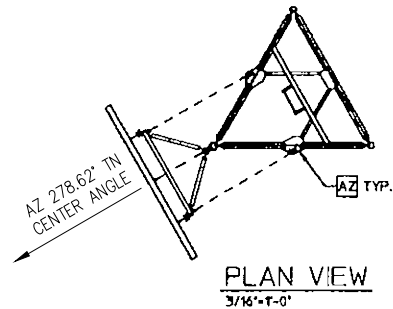
SECTION Z-Z LADDER STANDOFF
3/4"-1'-0"



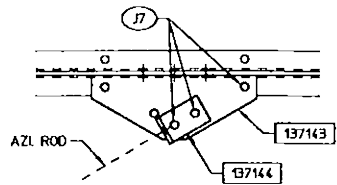
LADDER SPLICE DETAIL
1 1/2' - 1'-0'



LADDER BASE DETAIL
3/4"=1'-0"

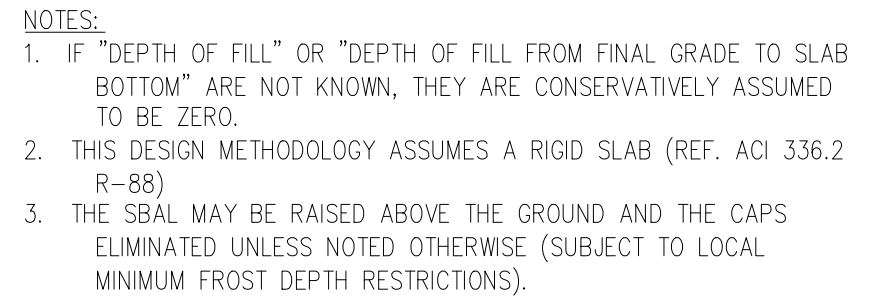


ELEVATION
3/16"=1'-0"



AZIMUTH ROD SUPPORT
PLATE DETAIL **AZ**

[illegible]



DIMENSIONS:
SLAB WIDTH = 15.0 FEET
SLAB THICKNESS = 24.0 INCHES
CAP HEIGHT = 12.0 INCHES
CAP SIZE = 30.0 INCHES
TOWER FACE WIDTH = 9.00 FEET
NUMBER OF TOWER LEGS = 3
DEPTH OF FILL = 0.000 INCHES
DEPTH FROM FINAL GRADE = 0.000 FEET
TO SLAB BOTTOM

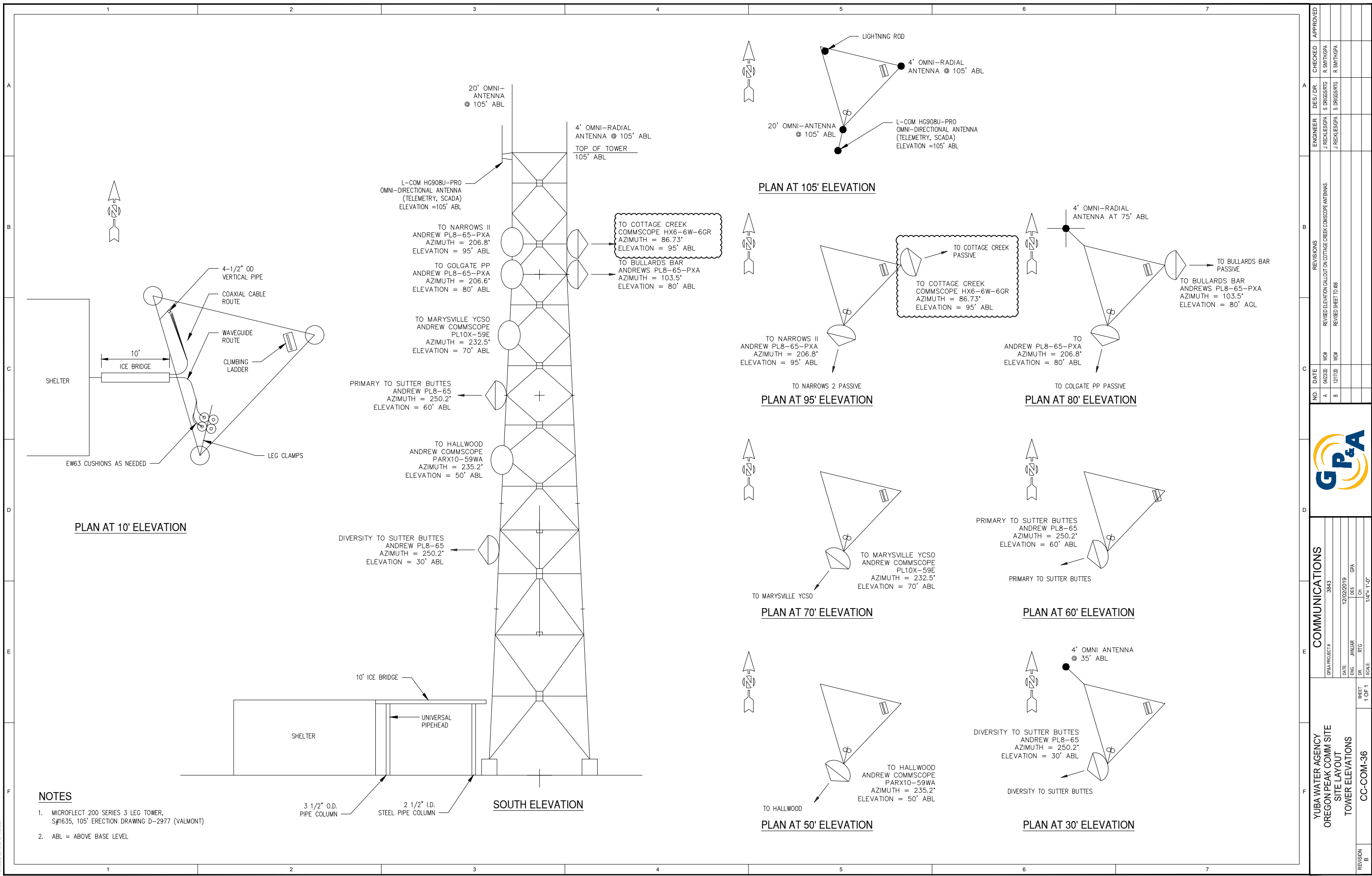
MATERIALS PARAMETERS:
 ULTIMATE NET SOIL BEARING PRESSURE = 6.00 KSF
 CONCRETE COMPRESSIVE STRENGTH = 4500 PSI
 REBAR YIELD STRENGTH = 60,000 PSI
 DENSITY OF CONCRETE = 0.150 KCF
 DENSITY OF SOIL = 0.000 KCF
 DENSITY OF FILL = 0.000 KCF
 ALLOWABLE STRESS INCREASE FACTOR = 1.00

TOWER BASE REACTIONS:
OVERTURNING MOMENT: 419 FT-KIPS
TOTAL TOWER SHEAR = 13.4 KIPS
MAXIMUM LEG SHEAR = 7.20 KIPS
TOWER WEIGHT -3.60 KIPS

REINFORCEMENT REQUIREMENTS:
 MINIMUM REINFORCEMENT AREAS: TOP BARS = 2.93 SQ. INCHES, BOTTOM BARS = 4.84 SQ. INCHES.
 TOP BARS: USE 15-#4 (EACH WAY) @ 12.43 INCH SPACING, LENGTH -14.50 FT., TOTAL WEIGHT = 291 LBS.
 BOTTOM BARS: USE 16-#5 (EACH WAY) @ 11.60 INCH SPACING, LENGTH -14.50 FT., TOTAL WEIGHT = 484 LBS.
 USE 3-#4 TIES, 24 IN. SQ. @ 12 INCH SPC. (PER CAP), DOUBLE @ TOP.
 USE 4-#5 INVERTED STIRRUPS, 31 IN. X 21.5 IN. X 31 IN. (PER CAP)

OUTPUT SUMMARY:
STABILITY RATIO = 1.09 OK
NET BEARING SIOL PRESSURE = 1.67 KSF OK
VOLUME OF CONCRETE = 17.4 CU. YDS.
SLAB 2 WAY SHEAR = OK
SLAB BEAM SHEAR = OK

REVISION 0	CC-COM-35	SHEET 1 OF 1	OREGON PEAK COMM SITE YUBA WATER AGENCY PASSIVE REPEATER SITE FOUNDATION PLAN				GFAA PROJECT #	3928	COMMUNICATIONS
			DATE	ENG	DES	GPA			
			DR	RTG	CH				
			SCALE:			NOT TO SCALE			



Appendix B California Emissions Estimator Model Results



YCWA Telecommunication Tower - Feather River AQMD Air District, Annual

YCWA Telecommunication Tower

Feather River AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.12	1000sqft	0.16	120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	67
Climate Zone	1			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	210.44	CH4 Intensity (lb/MW hr)	0.027	N2O Intensity (lb/MW hr)	0.003

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Project located in Yuba County. Adjusted PG&E based on latest published rate from 2017

Land Use - Modeling telecommunication tower as general light industrial. Communications tower site is a 0.3 acre site and the passive receptor site is 0.13 acres

Construction Phase - Based on Project Applicant construction schedule. Construction would take 75-90 days and occur possibly from April through June 2021 but assuming each phase is consecutive

Off-road Equipment - Default Equipment

Off-road Equipment - Equipment based on Project Applicant Info

Off-road Equipment - No construction equipment assumed during demobilization

Off-road Equipment - Default Equipment

Off-road Equipment - Equipment based on Project Applicant Info

Off-road Equipment - Equipment based on Project Applicant Info and using similar hours from the construction phase since equipment would be similar

Trips and VMT - Worker Trip Length = 40 miles to Yuba City. Workers = equipment plus 2. During con of telecom site, excavate 75 cy, fill 55 cy, and import 20 cy of concrete. Assume hauling trip length = worker. 150 cy/16 cy per truck * 2 trips

Vehicle Trips - Project would not generate daily trips

Area Coating - no re-painting

Energy Use - No natural gas infrastructure

Water And Wastewater - No indoor water infrastructure

Solid Waste -

Construction Off-road Equipment Mitigation - AMM 3: Construction BMPs includes watering, 15 mph limit to protect water quality

Stationary Sources - Emergency Generators and Fire Pumps - 80 kW propane generator (approximately ~107 HP). Per FRAQMD Rule 3.22, testing and maintenance totals 100 hours annually + 240 hours annually for PSPS = 340 hrs

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	2.00	11.00
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	NumDays	1.00	2.00

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tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24NG	3.20	0.00
tblLandUse	LotAcreage	0.00	0.16
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	641.35	210.44
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	107.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	340.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	19.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00

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tblTripsAndVMT	WorkerTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	27,750.00	0.00

2.0 Emissions Summary

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2.1 Overall Construction**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0313	0.2836	0.3112	6.0000e-004	0.0150	0.0133	0.0283	3.8400e-003	0.0122	0.0161	0.0000	53.2431	53.2431	0.0136	0.0000	53.5836
Maximum	0.0313	0.2836	0.3112	6.0000e-004	0.0150	0.0133	0.0283	3.8400e-003	0.0122	0.0161	0.0000	53.2431	53.2431	0.0136	0.0000	53.5836

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0313	0.2836	0.3112	6.0000e-004	0.0145	0.0133	0.0277	3.7700e-003	0.0122	0.0160	0.0000	53.2431	53.2431	0.0136	0.0000	53.5835
Maximum	0.0313	0.2836	0.3112	6.0000e-004	0.0145	0.0133	0.0277	3.7700e-003	0.0122	0.0160	0.0000	53.2431	53.2431	0.0136	0.0000	53.5835

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	3.86	0.00	2.05	1.82	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2021	6-30-2021	0.2443	0.2443
2	7-1-2021	9-30-2021	0.0706	0.0706
		Highest	0.2443	0.2443

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.7000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0490	0.0490	1.0000e-005	0.0000	0.0494
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.1600	0.0154	0.4168	6.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	9.2758	9.2758	0.0194	0.0000	9.7606
Waste						0.0000	0.0000		0.0000	0.0000	0.0305	0.0000	0.0305	1.8000e-003	0.0000	0.0754
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1605	0.0154	0.4168	6.0000e-005	0.0000	8.8000e-004	8.8000e-004	0.0000	8.8000e-004	8.8000e-004	0.0305	9.3248	9.3552	0.0212	0.0000	9.8855

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2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.7000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0490	0.0490	1.0000e-005	0.0000	0.0494
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.1600	0.0154	0.4168	6.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	9.2758	9.2758	0.0194	0.0000	9.7606
Waste						0.0000	0.0000		0.0000	0.0000	0.0305	0.0000	0.0305	1.8000e-003	0.0000	0.0754
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1605	0.0154	0.4168	6.0000e-005	0.0000	8.8000e-004	8.8000e-004	0.0000	8.8000e-004	8.8000e-004	0.0305	9.3248	9.3552	0.0212	0.0000	9.8855

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	4/1/2021	4/2/2021	5	2	
2	Clearing and Grubbing	Site Preparation	4/3/2021	4/6/2021	5	2	
3	Construction of Telecommunication Tower and Passive Structure	Building Construction	4/7/2021	7/13/2021	5	70	
4	Retrofit of Electrical Infrastructure	Grading	7/14/2021	7/28/2021	5	11	
5	Demobilization	Paving	7/29/2021	8/4/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Graders	1	8.00	187	0.41
Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Clearing and Grubbing	Graders	1	8.00	187	0.41
Clearing and Grubbing	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction of Telecommunication Tower and Passive Structure	Cranes	1	4.00	231	0.29
Construction of Telecommunication Tower and Passive Structure	Excavators	1	8.00	158	0.38
Construction of Telecommunication Tower and Passive Structure	Forklifts	0	6.00	89	0.20
Construction of Telecommunication Tower and Passive Structure	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Retrofit of Electrical Infrastructure	Concrete/Industrial Saws	0	8.00	81	0.73
Retrofit of Electrical Infrastructure	Cranes	1	4.00	231	0.29
Retrofit of Electrical Infrastructure	Excavators	1	8.00	158	0.38
Retrofit of Electrical Infrastructure	Rubber Tired Dozers	0	1.00	247	0.40
Retrofit of Electrical Infrastructure	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demobilization	Cement and Mortar Mixers	0	6.00	9	0.56
Demobilization	Concrete/Industrial Saws	0		81	0.73
Demobilization	Pavers	0	7.00	130	0.42
Demobilization	Rollers	0	7.00	80	0.38
Demobilization	Rubber Tired Dozers	0		247	0.40
Demobilization	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Mobilization	2	4.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clearing and Grubbing	2	4.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Construction of Telecommunication Tower	3	12.00	0.00	19.00	40.00	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Retrofit of Electrical Infrastructure	3	5.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	5.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-004	0.0000	5.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620
Total	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005	5.3000e-004	3.0000e-004	8.3000e-004	6.0000e-005	2.8000e-004	3.4000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620

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3.2 Mobilization - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930
Total	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620
Total	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005	2.4000e-004	3.0000e-004	5.4000e-004	3.0000e-005	2.8000e-004	3.1000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620

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3.2 Mobilization - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930
Total	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930

3.3 Clearing and Grubbing - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-004	0.0000	5.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620
Total	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005	5.3000e-004	3.0000e-004	8.3000e-004	6.0000e-005	2.8000e-004	3.4000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620

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3.3 Clearing and Grubbing - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930
Total	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620
Total	6.4000e-004	7.8200e-003	4.0300e-003	1.0000e-005	2.4000e-004	3.0000e-004	5.4000e-004	3.0000e-005	2.8000e-004	3.1000e-004	0.0000	0.8551	0.8551	2.8000e-004	0.0000	0.8620

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3.3 Clearing and Grubbing - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930
Total	4.0000e-005	4.0000e-005	3.5000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0929	0.0929	0.0000	0.0000	0.0930

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0218	0.2266	0.2283	3.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	34.3062	34.3062	0.0111	0.0000	34.5836
Total	0.0218	0.2266	0.2283	3.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	34.3062	34.3062	0.0111	0.0000	34.5836

YCWA Telecommunication Tower - Feather River AQMD Air District, Annual

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	3.8500e-003	6.4000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3377	1.3377	3.0000e-005	0.0000	1.3385
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4600e-003	4.0500e-003	0.0372	1.1000e-004	0.0123	7.0000e-005	0.0123	3.2600e-003	6.0000e-005	3.3200e-003	0.0000	9.7582	9.7582	2.8000e-004	0.0000	9.7652
Total	4.5800e-003	7.9000e-003	0.0378	1.2000e-004	0.0126	9.0000e-005	0.0127	3.3500e-003	8.0000e-005	3.4200e-003	0.0000	11.0958	11.0958	3.1000e-004	0.0000	11.1037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0218	0.2266	0.2283	3.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	34.3062	34.3062	0.0111	0.0000	34.5836
Total	0.0218	0.2266	0.2283	3.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	34.3062	34.3062	0.0111	0.0000	34.5836

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3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	3.8500e-003	6.4000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.3377	1.3377	3.0000e-005	0.0000	1.3385
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4600e-003	4.0500e-003	0.0372	1.1000e-004	0.0123	7.0000e-005	0.0123	3.2600e-003	6.0000e-005	3.3200e-003	0.0000	9.7582	9.7582	2.8000e-004	0.0000	9.7652
Total	4.5800e-003	7.9000e-003	0.0378	1.2000e-004	0.0126	9.0000e-005	0.0127	3.3500e-003	8.0000e-005	3.4200e-003	0.0000	11.0958	11.0958	3.1000e-004	0.0000	11.1037

3.5 Retrofit of Electrical Infrastructure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1700e-003	0.0330	0.0328	6.0000e-005		1.5800e-003	1.5800e-003		1.4500e-003	1.4500e-003	0.0000	5.0156	5.0156	1.6200e-003	0.0000	5.0562
Total	3.1700e-003	0.0330	0.0328	6.0000e-005	0.0000	1.5800e-003	1.5800e-003	0.0000	1.4500e-003	1.4500e-003	0.0000	5.0156	5.0156	1.6200e-003	0.0000	5.0562

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3.5 Retrofit of Electrical Infrastructure - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.6000e-004	2.4300e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6389	0.6389	2.0000e-005	0.0000	0.6394
Total	2.9000e-004	2.6000e-004	2.4300e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6389	0.6389	2.0000e-005	0.0000	0.6394

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1700e-003	0.0330	0.0328	6.0000e-005		1.5800e-003	1.5800e-003		1.4500e-003	1.4500e-003	0.0000	5.0156	5.0156	1.6200e-003	0.0000	5.0562
Total	3.1700e-003	0.0330	0.0328	6.0000e-005	0.0000	1.5800e-003	1.5800e-003	0.0000	1.4500e-003	1.4500e-003	0.0000	5.0156	5.0156	1.6200e-003	0.0000	5.0562

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3.5 Retrofit of Electrical Infrastructure - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.6000e-004	2.4300e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6389	0.6389	2.0000e-005	0.0000	0.6394
Total	2.9000e-004	2.6000e-004	2.4300e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6389	0.6389	2.0000e-005	0.0000	0.6394

3.6 Demobilization - 2021

Unmitigated Construction On-Site

[illegible]

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3.6 Demobilization - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.2000e-004	1.1100e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2904	0.2904	1.0000e-005	0.0000	0.2906
Total	1.3000e-004	1.2000e-004	1.1100e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2904	0.2904	1.0000e-005	0.0000	0.2906

Mitigated Construction On-Site

[illegible]

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3.6 Demobilization - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.2000e-004	1.1100e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2904	0.2904	1.0000e-005	0.0000	0.2906
Total	1.3000e-004	1.2000e-004	1.1100e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2904	0.2904	1.0000e-005	0.0000	0.2906

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.557359	0.027554	0.168081	0.110809	0.027273	0.005750	0.020698	0.074029	0.001179	0.001040	0.004352	0.001063	0.000813

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	513.6	0.0490	1.0000e-005	0.0000	0.0494
Total		0.0490	1.0000e-005	0.0000	0.0494

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	513.6	0.0490	1.0000e-005	0.0000	0.0494
Total		0.0490	1.0000e-005	0.0000	0.0494

6.0 Area Detail

6.1 Mitigation Measures Area

[illegible]

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6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.7000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.7000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

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7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0305	1.8000e-003	0.0000	0.0754
Unmitigated	0.0305	1.8000e-003	0.0000	0.0754

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0.15	0.0305	1.8000e- 003	0.0000	0.0754
Total		0.0305	1.8000e- 003	0.0000	0.0754

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0.15	0.0305	1.8000e- 003	0.0000	0.0754
Total		0.0305	1.8000e- 003	0.0000	0.0754

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	340	107	0.73	CNG

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - CNG (0 - 500 HP)	0.1600	0.0154	0.4168	6.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	9.2758	9.2758	0.0194	0.0000	9.7606
Total	0.1600	0.0154	0.4168	6.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	9.2758	9.2758	0.0194	0.0000	9.7606

11.0 Vegetation

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

YCWA Telecommunication Tower

Feather River AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.12	1000sqft	0.16	120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	67
Climate Zone	1			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	210.44	CH4 Intensity (lb/MW hr)	0.027	N2O Intensity (lb/MW hr)	0.003

1.3 User Entered Comments & Non-Default Data

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

Project Characteristics - Project located in Yuba County. Adjusted PG&E based on latest published rate from 2017

Land Use - Modeling telecommunication tower as general light industrial. Communications tower site is a 0.3 acre site and the passive receptor site is 0.13 acres

Construction Phase - Based on Project Applicant construction schedule. Construction would take 75-90 days and occur possibly from April through June 2021 but assuming each phase is consecutive

Off-road Equipment - Default Equipment

Off-road Equipment - Equipment based on Project Applicant Info

Off-road Equipment - No construction equipment assumed during demobilization

Off-road Equipment - Default Equipment

Off-road Equipment - Equipment based on Project Applicant Info

Off-road Equipment - Equipment based on Project Applicant Info and using similar hours from the construction phase since equipment would be similar

Trips and VMT - Worker Trip Length = 40 miles to Yuba City. Workers = equipment plus 2. During con of telecom site, excavate 75 cy, fill 55 cy, and import 20 cy of concrete. Assume hauling trip length = worker. 150 cy/16 cy per truck * 2 trips

Vehicle Trips - Project would not generate daily trips

Area Coating - no re-painting

Energy Use - No natural gas infrastructure

Water And Wastewater - No indoor water infrastructure

Solid Waste -

Construction Off-road Equipment Mitigation - AMM 3: Construction BMPs includes watering, 15 mph limit to protect water quality

Stationary Sources - Emergency Generators and Fire Pumps - 80 kW propane generator (approximately ~107 HP). Per FRAQMD Rule 3.22, testing and maintenance totals 100 hours annually + 240 hours annually for PSPS = 340 hrs

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	2.00	11.00
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	NumDays	1.00	2.00

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tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24NG	3.20	0.00
tblLandUse	LotAcreage	0.00	0.16
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	641.35	210.44
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	107.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	340.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	19.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

tblTripsAndVMT	WorkerTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	27,750.00	0.00

2.0 Emissions Summary

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.7691	7.9178	7.5759	0.0146	0.8038	0.3171	1.1048	0.1298	0.2918	0.4067	0.0000	1,420.219 4	1,420.219 4	0.3592	0.0000	1,429.198 6
Maximum	0.7691	7.9178	7.5759	0.0146	0.8038	0.3171	1.1048	0.1298	0.2918	0.4067	0.0000	1,420.219 4	1,420.219 4	0.3592	0.0000	1,429.198 6

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.7691	7.9178	7.5759	0.0146	0.5122	0.3171	0.8132	0.0993	0.2918	0.3911	0.0000	1,420.219 4	1,420.219 4	0.3592	0.0000	1,429.198 6
Maximum	0.7691	7.9178	7.5759	0.0146	0.5122	0.3171	0.8132	0.0993	0.2918	0.3911	0.0000	1,420.219 4	1,420.219 4	0.3592	0.0000	1,429.198 6

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	36.28	0.00	26.40	23.48	0.00	3.84	0.00	0.00	0.00	0.00	0.00	0.00

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.5700e-003	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.5700e-003	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	4/1/2021	4/2/2021	5	2	
2	Clearing and Grubbing	Site Preparation	4/3/2021	4/6/2021	5	2	
3	Construction of Telecommunication Tower and Passive Structure	Building Construction	4/7/2021	7/13/2021	5	70	
4	Retrofit of Electrical Infrastructure	Grading	7/14/2021	7/28/2021	5	11	
5	Demobilization	Paving	7/29/2021	8/4/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Graders	1	8.00	187	0.41
Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Clearing and Grubbing	Graders	1	8.00	187	0.41
Clearing and Grubbing	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction of Telecommunication Tower and Passive Structure	Cranes	1	4.00	231	0.29
Construction of Telecommunication Tower and Passive Structure	Excavators	1	8.00	158	0.38
Construction of Telecommunication Tower and Passive Structure	Forklifts	0	6.00	89	0.20
Construction of Telecommunication Tower and Passive Structure	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Retrofit of Electrical Infrastructure	Concrete/Industrial Saws	0	8.00	81	0.73
Retrofit of Electrical Infrastructure	Cranes	1	4.00	231	0.29
Retrofit of Electrical Infrastructure	Excavators	1	8.00	158	0.38
Retrofit of Electrical Infrastructure	Rubber Tired Dozers	0	1.00	247	0.40
Retrofit of Electrical Infrastructure	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demobilization	Cement and Mortar Mixers	0	6.00	9	0.56
Demobilization	Concrete/Industrial Saws	0		81	0.73
Demobilization	Pavers	0	7.00	130	0.42
Demobilization	Rollers	0	7.00	80	0.38
Demobilization	Rubber Tired Dozers	0		247	0.40
Demobilization	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Mobilization	2	4.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clearing and Grubbing	2	4.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Construction of Telecommunication Tower	3	12.00	0.00	19.00	40.00	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Retrofit of Electrical Infrastructure	3	5.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	5.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.5303	0.2995	0.8297	0.0573	0.2755	0.3328		942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.2 Mobilization - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876
Total	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755	0.0000	942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.2386	0.2995	0.5381	0.0258	0.2755	0.3013	0.0000	942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.2 Mobilization - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876
Total	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876

3.3 Clearing and Grubbing - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.5303	0.2995	0.8297	0.0573	0.2755	0.3328		942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.3 Clearing and Grubbing - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876
Total	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755	0.0000	942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.2386	0.2995	0.5381	0.0258	0.2755	0.3013	0.0000	942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.3 Clearing and Grubbing - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876
Total	0.0475	0.0433	0.3444	1.0000e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		99.3164	99.3164	2.8500e-003		99.3876

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895		1,080.4614	1,080.4614	0.3494		1,089.1975
Total	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895		1,080.4614	1,080.4614	0.3494		1,089.1975

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5500e-003	0.1110	0.0193	4.0000e-004	9.4900e-003	4.6000e-004	9.9600e-003	2.6000e-003	4.4000e-004	3.0400e-003		41.8089	41.8089	1.1700e-003		41.8383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1426	0.1299	1.0332	2.9900e-003	0.3648	2.0100e-003	0.3668	0.0967	1.8500e-003	0.0986		297.9491	297.9491	8.5500e-003		298.1629
Total	0.1462	0.2408	1.0525	3.3900e-003	0.3743	2.4700e-003	0.3768	0.0993	2.2900e-003	0.1016		339.7580	339.7580	9.7200e-003		340.0011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895	0.0000	1,080.4614	1,080.4614	0.3494		1,089.1975
Total	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895	0.0000	1,080.4614	1,080.4614	0.3494		1,089.1975

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5500e-003	0.1110	0.0193	4.0000e-004	9.4900e-003	4.6000e-004	9.9600e-003	2.6000e-003	4.4000e-004	3.0400e-003		41.8089	41.8089	1.1700e-003		41.8383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1426	0.1299	1.0332	2.9900e-003	0.3648	2.0100e-003	0.3668	0.0967	1.8500e-003	0.0986		297.9491	297.9491	8.5500e-003		298.1629
Total	0.1462	0.2408	1.0525	3.3900e-003	0.3743	2.4700e-003	0.3768	0.0993	2.2900e-003	0.1016		339.7580	339.7580	9.7200e-003		340.0011

3.5 Retrofit of Electrical Infrastructure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5761	5.9999	5.9584	0.0104		0.2867	0.2867		0.2638	0.2638		1,005.2364	1,005.2364	0.3251		1,013.3643
Total	0.5761	5.9999	5.9584	0.0104	0.0000	0.2867	0.2867	0.0000	0.2638	0.2638		1,005.2364	1,005.2364	0.3251		1,013.3643

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.5 Retrofit of Electrical Infrastructure - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345
Total	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5761	5.9999	5.9584	0.0104		0.2867	0.2867		0.2638	0.2638	0.0000	1,005.2364	1,005.2364	0.3251		1,013.3643
Total	0.5761	5.9999	5.9584	0.0104	0.0000	0.2867	0.2867	0.0000	0.2638	0.2638	0.0000	1,005.2364	1,005.2364	0.3251		1,013.3643

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.5 Retrofit of Electrical Infrastructure - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345
Total	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345

3.6 Demobilization - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.6 Demobilization - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345
Total	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345

Mitigated Construction On-Site

[illegible]

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

3.6 Demobilization - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345
Total	0.0594	0.0541	0.4305	1.2500e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		124.1455	124.1455	3.5600e-003		124.2345

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.557359	0.027554	0.168081	0.110809	0.027273	0.005750	0.020698	0.074029	0.001179	0.001040	0.004352	0.001063	0.000813

5.0 Energy Detail

 Historical Energy Use: N

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Unmitigated	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005

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6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Total	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Total	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005

7.0 Water Detail

YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	340	107	0.73	CNG

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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YCWA Telecommunication Tower - Feather River AQMD Air District, Winter

10.1 Stationary Sources**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - CNG (0 - 500 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

11.0 Vegetation

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

YCWA Telecommunication Tower

Feather River AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.12	1000sqft	0.16	120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	67
Climate Zone	1			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	210.44	CH4 Intensity (lb/MW hr)	0.027	N2O Intensity (lb/MW hr)	0.003

1.3 User Entered Comments & Non-Default Data

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

Project Characteristics - Project located in Yuba County. Adjusted PG&E based on latest published rate from 2017

Land Use - Modeling telecommunication tower as general light industrial. Communications tower site is a 0.3 acre site and the passive receptor site is 0.13 acres

Construction Phase - Based on Project Applicant construction schedule. Construction would take 75-90 days and occur possibly from April through June 2021 but assuming each phase is consecutive

Off-road Equipment - Default Equipment

Off-road Equipment - Equipment based on Project Applicant Info

Off-road Equipment - No construction equipment assumed during demobilization

Off-road Equipment - Default Equipment

Off-road Equipment - Equipment based on Project Applicant Info

Off-road Equipment - Equipment based on Project Applicant Info and using similar hours from the construction phase since equipment would be similar

Trips and VMT - Worker Trip Length = 40 miles to Yuba City. Workers = equipment plus 2. During con of telecom site, excavate 75 cy, fill 55 cy, and import 20 cy of concrete. Assume hauling trip length = worker. 150 cy/16 cy per truck * 2 trips

Vehicle Trips - Project would not generate daily trips

Area Coating - no re-painting

Energy Use - No natural gas infrastructure

Water And Wastewater - No indoor water infrastructure

Solid Waste -

Construction Off-road Equipment Mitigation - AMM 3: Construction BMPs includes watering, 15 mph limit to protect water quality

Stationary Sources - Emergency Generators and Fire Pumps - 80 kW propane generator (approximately ~107 HP). Per FRAQMD Rule 3.22, testing and maintenance totals 100 hours annually + 240 hours annually for PSPS = 340 hrs

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	2.00	11.00
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	NumDays	1.00	2.00

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tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24NG	3.20	0.00
tblLandUse	LotAcreage	0.00	0.16
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	641.35	210.44
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	107.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	340.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	19.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00

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tblTripsAndVMT	WorkerTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	27,750.00	0.00

2.0 Emissions Summary

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.7615	7.8981	7.8478	0.0150	0.8038	0.3171	1.1048	0.1298	0.2918	0.4067	0.0000	1,463.7600	1,463.7600	0.3607	0.0000	1,472.7769
Maximum	0.7615	7.8981	7.8478	0.0150	0.8038	0.3171	1.1048	0.1298	0.2918	0.4067	0.0000	1,463.7600	1,463.7600	0.3607	0.0000	1,472.7769

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.7615	7.8981	7.8478	0.0150	0.5122	0.3171	0.8132	0.0993	0.2918	0.3911	0.0000	1,463.7600	1,463.7600	0.3607	0.0000	1,472.7769
Maximum	0.7615	7.8981	7.8478	0.0150	0.5122	0.3171	0.8132	0.0993	0.2918	0.3911	0.0000	1,463.7600	1,463.7600	0.3607	0.0000	1,472.7769

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	36.28	0.00	26.40	23.48	0.00	3.84	0.00	0.00	0.00	0.00	0.00	0.00

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.5700e-003	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.5700e-003	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	4/1/2021	4/2/2021	5	2	
2	Clearing and Grubbing	Site Preparation	4/3/2021	4/6/2021	5	2	
3	Construction of Telecommunication Tower and Passive Structure	Building Construction	4/7/2021	7/13/2021	5	70	
4	Retrofit of Electrical Infrastructure	Grading	7/14/2021	7/28/2021	5	11	
5	Demobilization	Paving	7/29/2021	8/4/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Graders	1	8.00	187	0.41
Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Clearing and Grubbing	Graders	1	8.00	187	0.41
Clearing and Grubbing	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Construction of Telecommunication Tower and Passive Structure	Cranes	1	4.00	231	0.29
Construction of Telecommunication Tower and Passive Structure	Excavators	1	8.00	158	0.38
Construction of Telecommunication Tower and Passive Structure	Forklifts	0	6.00	89	0.20
Construction of Telecommunication Tower and Passive Structure	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Retrofit of Electrical Infrastructure	Concrete/Industrial Saws	0	8.00	81	0.73
Retrofit of Electrical Infrastructure	Cranes	1	4.00	231	0.29
Retrofit of Electrical Infrastructure	Excavators	1	8.00	158	0.38
Retrofit of Electrical Infrastructure	Rubber Tired Dozers	0	1.00	247	0.40
Retrofit of Electrical Infrastructure	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demobilization	Cement and Mortar Mixers	0	6.00	9	0.56
Demobilization	Concrete/Industrial Saws	0		81	0.73
Demobilization	Pavers	0	7.00	130	0.42
Demobilization	Rollers	0	7.00	80	0.38
Demobilization	Rubber Tired Dozers	0		247	0.40
Demobilization	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Mobilization	2	4.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clearing and Grubbing	2	4.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Construction of Telecommunication T	3	12.00	0.00	19.00	40.00	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Retrofit of Electrical Infrastructure	3	5.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	5.00	0.00	0.00	40.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Mobilization - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.5303	0.2995	0.8297	0.0573	0.2755	0.3328		942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.2 Mobilization - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306
Total	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755	0.0000	942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.2386	0.2995	0.5381	0.0258	0.2755	0.3013	0.0000	942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.2 Mobilization - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306
Total	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306

3.3 Clearing and Grubbing - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.5303	0.2995	0.8297	0.0573	0.2755	0.3328		942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.3 Clearing and Grubbing - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306
Total	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755	0.0000	942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.2386	0.2995	0.5381	0.0258	0.2755	0.3013	0.0000	942.5842	942.5842	0.3049		950.2055

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.3 Clearing and Grubbing - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306
Total	0.0450	0.0346	0.4355	1.1400e-003	0.1216	6.7000e-004	0.1223	0.0322	6.2000e-004	0.0329		113.6457	113.6457	3.4000e-003		113.7306

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895		1,080.4614	1,080.4614	0.3494		1,089.1975
Total	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895		1,080.4614	1,080.4614	0.3494		1,089.1975

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1056	0.0178	4.0000e-004	9.4900e-003	4.6000e-004	9.9500e-003	2.6000e-003	4.4000e-004	3.0400e-003		42.3614	42.3614	1.0500e-003		42.3875
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1351	0.1036	1.3065	3.4200e-003	0.3648	2.0100e-003	0.3668	0.0967	1.8500e-003	0.0986		340.9372	340.9372	0.0102		341.1919
Total	0.1386	0.2092	1.3243	3.8200e-003	0.3743	2.4700e-003	0.3767	0.0993	2.2900e-003	0.1016		383.2986	383.2986	0.0112		383.5794

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895	0.0000	1,080.4614	1,080.4614	0.3494		1,089.1975
Total	0.6229	6.4739	6.5235	0.0112		0.3147	0.3147		0.2895	0.2895	0.0000	1,080.4614	1,080.4614	0.3494		1,089.1975

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.4 Construction of Telecommunication Tower and Passive Structure - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1056	0.0178	4.0000e-004	9.4900e-003	4.6000e-004	9.9500e-003	2.6000e-003	4.4000e-004	3.0400e-003		42.3614	42.3614	1.0500e-003		42.3875
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1351	0.1036	1.3065	3.4200e-003	0.3648	2.0100e-003	0.3668	0.0967	1.8500e-003	0.0986		340.9372	340.9372	0.0102		341.1919
Total	0.1386	0.2092	1.3243	3.8200e-003	0.3743	2.4700e-003	0.3767	0.0993	2.2900e-003	0.1016		383.2986	383.2986	0.0112		383.5794

3.5 Retrofit of Electrical Infrastructure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5761	5.9999	5.9584	0.0104		0.2867	0.2867		0.2638	0.2638		1,005.2364	1,005.2364	0.3251		1,013.3643
Total	0.5761	5.9999	5.9584	0.0104	0.0000	0.2867	0.2867	0.0000	0.2638	0.2638		1,005.2364	1,005.2364	0.3251		1,013.3643

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.5 Retrofit of Electrical Infrastructure - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633
Total	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5761	5.9999	5.9584	0.0104		0.2867	0.2867		0.2638	0.2638	0.0000	1,005.2364	1,005.2364	0.3251		1,013.3643
Total	0.5761	5.9999	5.9584	0.0104	0.0000	0.2867	0.2867	0.0000	0.2638	0.2638	0.0000	1,005.2364	1,005.2364	0.3251		1,013.3643

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.5 Retrofit of Electrical Infrastructure - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633
Total	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633

3.6 Demobilization - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.6 Demobilization - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633
Total	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633

Mitigated Construction On-Site

[illegible]

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

3.6 Demobilization - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633
Total	0.0563	0.0432	0.5444	1.4300e-003	0.1520	8.4000e-004	0.1528	0.0403	7.7000e-004	0.0411		142.0572	142.0572	4.2400e-003		142.1633

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.557359	0.027554	0.168081	0.110809	0.027273	0.005750	0.020698	0.074029	0.001179	0.001040	0.004352	0.001063	0.000813

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Unmitigated	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005

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6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Total	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005
Total	2.5700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		3.0000e-005	3.0000e-005	0.0000		3.0000e-005

7.0 Water Detail

YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	340	107	0.73	CNG

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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YCWA Telecommunication Tower - Feather River AQMD Air District, Summer

10.1 Stationary Sources**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - CNG (0 - 500 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

11.0 Vegetation

Appendix C Noise Monitoring Data



Freq Weight : A
 Time Weight : FAST
 Level Range : 40-100
 Max dB : 82.1 - 2009/06/27 13:40:54
 Level Range : 40-100
 SEL : 92.2
 Leq : 62.7

Noise Measurement 1

No. s	Date Time	(dB)
633	2009/05/28 01:37:13	51.9
634	2009/05/28 01:37:14	51.6
635	2009/05/28 01:37:15	52.6
636	2009/05/28 01:37:16	52.8
637	2009/05/28 01:37:17	53.2
638	2009/05/28 01:37:18	53.6
639	2009/05/28 01:37:19	54.6
640	2009/05/28 01:37:20	54.7
641	2009/05/28 01:37:21	54.7
642	2009/05/28 01:37:22	52.7
643	2009/05/28 01:37:23	53.1
644	2009/05/28 01:37:24	53.2
645	2009/05/28 01:37:25	54.2
646	2009/05/28 01:37:26	52.7
647	2009/05/28 01:37:27	52.0
648	2009/05/28 01:37:28	51.6
649	2009/05/28 01:37:29	51.5
650	2009/05/28 01:37:30	52.0
651	2009/05/28 01:37:31	52.0
652	2009/05/28 01:37:32	51.0
653	2009/05/28 01:37:33	52.1
654	2009/05/28 01:37:34	51.3
655	2009/05/28 01:37:35	51.3
656	2009/05/28 01:37:36	51.4
657	2009/05/28 01:37:37	51.8
658	2009/05/28 01:37:38	52.7
659	2009/05/28 01:37:39	52.7
660	2009/05/28 01:37:40	52.3
661	2009/05/28 01:37:41	52.4
662	2009/05/28 01:37:42	52.3
663	2009/05/28 01:37:43	53.0
664	2009/05/28 01:37:44	53.4
665	2009/05/28 01:37:45	52.4
666	2009/05/28 01:37:46	52.9
667	2009/05/28 01:37:47	52.4
668	2009/05/28 01:37:48	52.1
669	2009/05/28 01:37:49	53.6
670	2009/05/28 01:37:50	51.9
671	2009/05/28 01:37:51	53.0
672	2009/05/28 01:37:52	52.7
673	2009/05/28 01:37:53	53.9
674	2009/05/28 01:37:54	53.5
675	2009/05/28 01:37:55	52.5
676	2009/05/28 01:37:56	53.5
677	2009/05/28 01:37:57	54.4
678	2009/05/28 01:37:58	53.6
679	2009/05/28 01:37:59	53.5
680	2009/05/28 01:38:00	52.4
681	2009/05/28 01:38:01	52.6
682	2009/05/28 01:38:02	53.8
683	2009/05/28 01:38:03	52.9
684	2009/05/28 01:38:04	53.5
685	2009/05/28 01:38:05	54.4
686	2009/05/28 01:38:06	53.3
687	2009/05/28 01:38:07	53.9
688	2009/05/28 01:38:08	52.9
689	2009/05/28 01:38:09	54.7
690	2009/05/28 01:38:10	53.9
691	2009/05/28 01:38:11	53.9
692	2009/05/28 01:38:12	53.8
693	2009/05/28 01:38:13	53.5
694	2009/05/28 01:38:14	53.7
695	2009/05/28 01:38:15	54.8
696	2009/05/28 01:38:16	55.8
697	2009/05/28 01:38:17	54.8
698	2009/05/28 01:38:18	53.9
699	2009/05/28 01:38:19	53.4
700	2009/05/28 01:38:20	53.4
701	2009/05/28 01:38:21	53.8
702	2009/05/28 01:38:22	53.8
703	2009/05/28 01:38:23	53.8
704	2009/05/28 01:38:24	53.7
705	2009/05/28 01:38:25	53.1
706	2009/05/28 01:38:26	53.0
707	2009/05/28 01:38:27	53.6
708	2009/05/28 01:38:28	53.6
709	2009/05/28 01:38:29	53.7
710	2009/05/28 01:38:30	53.9
711	2009/05/28 01:38:31	52.8
712	2009/05/28 01:38:32	52.2
713	2009/05/28 01:38:33	52.3
714	2009/05/28 01:38:34	52.4
715	2009/05/28 01:38:35	53.1
716	2009/05/28 01:38:36	52.0
717	2009/05/28 01:38:37	52.2

718	2009/05/28	01:38:38	51.7
719	2009/05/28	01:38:39	51.8
720	2009/05/28	01:38:40	52.2
721	2009/05/28	01:38:41	57.0
722	2009/05/28	01:38:42	56.9
723	2009/05/28	01:38:43	52.5
724	2009/05/28	01:38:44	53.3
725	2009/05/28	01:38:45	55.1
726	2009/05/28	01:38:46	57.4
727	2009/05/28	01:38:47	59.7
728	2009/05/28	01:38:48	62.4
729	2009/05/28	01:38:49	62.6
730	2009/05/28	01:38:50	64.2
731	2009/05/28	01:38:51	64.4
732	2009/05/28	01:38:52	64.1
733	2009/05/28	01:38:53	62.2
734	2009/05/28	01:38:54	60.7
735	2009/05/28	01:38:55	59.6
736	2009/05/28	01:38:56	57.5
737	2009/05/28	01:38:57	57.8
738	2009/05/28	01:38:58	56.3
739	2009/05/28	01:38:59	55.0
740	2009/05/28	01:39:00	54.3
741	2009/05/28	01:39:01	54.0
742	2009/05/28	01:39:02	52.5
743	2009/05/28	01:39:03	52.0
744	2009/05/28	01:39:04	52.1
745	2009/05/28	01:39:05	52.8
746	2009/05/28	01:39:06	52.1
747	2009/05/28	01:39:07	53.0
748	2009/05/28	01:39:08	55.0
749	2009/05/28	01:39:09	60.5
750	2009/05/28	01:39:10	63.1
751	2009/05/28	01:39:11	64.4
752	2009/05/28	01:39:12	62.6
753	2009/05/28	01:39:13	58.6
754	2009/05/28	01:39:14	55.2
755	2009/05/28	01:39:15	52.9
756	2009/05/28	01:39:16	52.8
757	2009/05/28	01:39:17	52.4
758	2009/05/28	01:39:18	53.0
759	2009/05/28	01:39:19	53.1
760	2009/05/28	01:39:20	52.4
761	2009/05/28	01:39:21	52.3
762	2009/05/28	01:39:22	52.3
763	2009/05/28	01:39:23	53.5
764	2009/05/28	01:39:24	52.9
765	2009/05/28	01:39:25	52.0
766	2009/05/28	01:39:26	51.4
767	2009/05/28	01:39:27	52.0
768	2009/05/28	01:39:28	52.5
769	2009/05/28	01:39:29	52.7
770	2009/05/28	01:39:30	54.3
771	2009/05/28	01:39:31	53.3
772	2009/05/28	01:39:32	52.7
773	2009/05/28	01:39:33	52.4
774	2009/05/28	01:39:34	52.5
775	2009/05/28	01:39:35	51.9
776	2009/05/28	01:39:36	54.0
777	2009/05/28	01:39:37	54.8
778	2009/05/28	01:39:38	54.9
779	2009/05/28	01:39:39	56.1
780	2009/05/28	01:39:40	55.5
781	2009/05/28	01:39:41	57.2
782	2009/05/28	01:39:42	55.2
783	2009/05/28	01:39:43	56.9
784	2009/05/28	01:39:44	55.0
785	2009/05/28	01:39:45	60.1
786	2009/05/28	01:39:46	58.9
787	2009/05/28	01:39:47	62.2
788	2009/05/28	01:39:48	61.2
789	2009/05/28	01:39:49	60.2
790	2009/05/28	01:39:50	56.8
791	2009/05/28	01:39:51	55.5
792	2009/05/28	01:39:52	54.4
793	2009/05/28	01:39:53	54.0
794	2009/05/28	01:39:54	55.4
795	2009/05/28	01:39:55	56.4
796	2009/05/28	01:39:56	56.9
797	2009/05/28	01:39:57	56.5
798	2009/05/28	01:39:58	56.1
799	2009/05/28	01:39:59	55.1
800	2009/05/28	01:40:00	53.7
801	2009/05/28	01:40:01	51.6
802	2009/05/28	01:40:02	52.2
803	2009/05/28	01:40:03	52.9
804	2009/05/28	01:40:04	52.4
805	2009/05/28	01:40:05	51.5
806	2009/05/28	01:40:06	51.7
807	2009/05/28	01:40:07	52.8
808	2009/05/28	01:40:08	51.6
809	2009/05/28	01:40:09	51.7
810	2009/05/28	01:40:10	51.5
811	2009/05/28	01:40:11	52.1
812	2009/05/28	01:40:12	52.2
813	2009/05/28	01:40:13	51.5
814	2009/05/28	01:40:14	52.7
815	2009/05/28	01:40:15	52.6
816	2009/05/28	01:40:16	54.2

817	2009/05/28	01: 40: 17	54. 7
818	2009/05/28	01: 40: 18	54. 9
819	2009/05/28	01: 40: 19	53. 0
820	2009/05/28	01: 40: 20	53. 7
821	2009/05/28	01: 40: 21	53. 3
822	2009/05/28	01: 40: 22	54. 0
823	2009/05/28	01: 40: 23	52. 0
824	2009/05/28	01: 40: 24	53. 8
825	2009/05/28	01: 40: 25	52. 1
826	2009/05/28	01: 40: 26	54. 0
827	2009/05/28	01: 40: 27	52. 4
828	2009/05/28	01: 40: 28	51. 3
829	2009/05/28	01: 40: 29	52. 6
830	2009/05/28	01: 40: 30	50. 9
831	2009/05/28	01: 40: 31	51. 3
832	2009/05/28	01: 40: 32	54. 5
833	2009/05/28	01: 40: 33	53. 6
834	2009/05/28	01: 40: 34	51. 8
835	2009/05/28	01: 40: 35	52. 0
836	2009/05/28	01: 40: 36	53. 2
837	2009/05/28	01: 40: 37	51. 8
838	2009/05/28	01: 40: 38	51. 8
839	2009/05/28	01: 40: 39	53. 4
840	2009/05/28	01: 40: 40	52. 6
841	2009/05/28	01: 40: 41	52. 1
842	2009/05/28	01: 40: 42	53. 2
843	2009/05/28	01: 40: 43	53. 9
844	2009/05/28	01: 40: 44	54. 1
845	2009/05/28	01: 40: 45	52. 5
846	2009/05/28	01: 40: 46	52. 7
847	2009/05/28	01: 40: 47	53. 1
848	2009/05/28	01: 40: 48	54. 5
849	2009/05/28	01: 40: 49	54. 8
850	2009/05/28	01: 40: 50	54. 0
851	2009/05/28	01: 40: 51	54. 7
852	2009/05/28	01: 40: 52	53. 8
853	2009/05/28	01: 40: 53	53. 7
854	2009/05/28	01: 40: 54	53. 4
855	2009/05/28	01: 40: 55	54. 8
856	2009/05/28	01: 40: 56	53. 9
857	2009/05/28	01: 40: 57	54. 5
858	2009/05/28	01: 40: 58	60. 2
859	2009/05/28	01: 40: 59	56. 1
860	2009/05/28	01: 41: 00	53. 6
861	2009/05/28	01: 41: 01	54. 2
862	2009/05/28	01: 41: 02	54. 8
863	2009/05/28	01: 41: 03	55. 4
864	2009/05/28	01: 41: 04	55. 6
865	2009/05/28	01: 41: 05	56. 1
866	2009/05/28	01: 41: 06	57. 4
867	2009/05/28	01: 41: 07	57. 8
868	2009/05/28	01: 41: 08	57. 2
869	2009/05/28	01: 41: 09	58. 0
870	2009/05/28	01: 41: 10	57. 1
871	2009/05/28	01: 41: 11	59. 0
872	2009/05/28	01: 41: 12	54. 2
873	2009/05/28	01: 41: 13	57. 4
874	2009/05/28	01: 41: 14	53. 7
875	2009/05/28	01: 41: 15	53. 3
876	2009/05/28	01: 41: 16	53. 7
877	2009/05/28	01: 41: 17	55. 0
878	2009/05/28	01: 41: 18	55. 9
879	2009/05/28	01: 41: 19	56. 6
880	2009/05/28	01: 41: 20	62. 7
881	2009/05/28	01: 41: 21	63. 9
882	2009/05/28	01: 41: 22	67. 5
883	2009/05/28	01: 41: 23	66. 6
884	2009/05/28	01: 41: 24	67. 5
885	2009/05/28	01: 41: 25	64. 9
886	2009/05/28	01: 41: 26	60. 2
887	2009/05/28	01: 41: 27	56. 8
888	2009/05/28	01: 41: 28	53. 8
889	2009/05/28	01: 41: 29	54. 3
890	2009/05/28	01: 41: 30	53. 0
891	2009/05/28	01: 41: 31	52. 4
892	2009/05/28	01: 41: 32	53. 0
893	2009/05/28	01: 41: 33	53. 8
894	2009/05/28	01: 41: 34	53. 8
895	2009/05/28	01: 41: 35	55. 2
896	2009/05/28	01: 41: 36	53. 6
897	2009/05/28	01: 41: 37	53. 2
898	2009/05/28	01: 41: 38	53. 2
899	2009/05/28	01: 41: 39	53. 7
900	2009/05/28	01: 41: 40	58. 3
1	2009/06/27	13: 38: 21	61. 2
2	2009/06/27	13: 38: 22	53. 2
3	2009/06/27	13: 38: 23	52. 0
4	2009/06/27	13: 38: 24	53. 3
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858	2009/06/27	13: 52: 38	63. 2
859	2009/06/27	13: 52: 39	60. 4
860	2009/06/27	13: 52: 40	59. 2
861	2009/06/27	13: 52: 41	58. 0
862	2009/06/27	13: 52: 42	57. 0
863	2009/06/27	13: 52: 43	57. 5
864	2009/06/27	13: 52: 44	54. 4
865	2009/06/27	13: 52: 45	54. 9
866	2009/06/27	13: 52: 46	54. 3
867	2009/06/27	13: 52: 47	52. 8
868	2009/06/27	13: 52: 48	54. 0
869	2009/06/27	13: 52: 49	51. 4
870	2009/06/27	13: 52: 50	51. 1
871	2009/06/27	13: 52: 51	53. 3
872	2009/06/27	13: 52: 52	52. 7
873	2009/06/27	13: 52: 53	54. 2
874	2009/06/27	13: 52: 54	53. 1
875	2009/06/27	13: 52: 55	54. 2
876	2009/06/27	13: 52: 56	51. 5
877	2009/06/27	13: 52: 57	52. 1
878	2009/06/27	13: 52: 58	51. 7
879	2009/06/27	13: 52: 59	52. 7
880	2009/06/27	13: 53: 00	52. 5
881	2009/06/27	13: 53: 01	52. 1
882	2009/06/27	13: 53: 02	52. 8
883	2009/06/27	13: 53: 03	52. 2
884	2009/06/27	13: 53: 04	51. 3
885	2009/06/27	13: 53: 05	52. 2
886	2009/06/27	13: 53: 06	51. 4
887	2009/06/27	13: 53: 07	50. 4
888	2009/06/27	13: 53: 08	49. 8
889	2009/06/27	13: 53: 09	50. 9
890	2009/06/27	13: 53: 10	49. 9
891	2009/06/27	13: 53: 11	50. 6
892	2009/06/27	13: 53: 12	49. 6
893	2009/06/27	13: 53: 13	49. 6
894	2009/06/27	13: 53: 14	49. 4
895	2009/06/27	13: 53: 15	49. 6
896	2009/06/27	13: 53: 16	49. 9
897	2009/06/27	13: 53: 17	51. 6
898	2009/06/27	13: 53: 18	56. 6
899	2009/06/27	13: 53: 19	59. 8
900	2009/06/27	13: 53: 20	57. 8

Appendix D Roadway Construction Noise Model



Roadway Construction Noise Model (RCNM),Version 1.1

Report date 1/4/2021Case DescriYWA Telecmn. Tower Clearing and Grubbing

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Houseboat Residential		65	60	55

Description	Impact	Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
				Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No		40	85		2000	0
Front End Loader	No		40		79.1	2000	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Grader	53	49	N/A	N/A	N/A	N/A	N/A
Front End Loader	47.1	43.1	N/A	N/A	N/A	N/A	N/A
Total	53	50	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 1/4/2021Case DescriYWA Telecmn. Tower Construction

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Houseboat Residential		65	60	55

Description	Impact	Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
				Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No		40		85	2000	0
Front End Loader	No		40		79.1	2000	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Grader	53	49	N/A	N/A	N/A	N/A	N/A
Front End Loader	47.1	43.1	N/A	N/A	N/A	N/A	N/A
Total	53	50	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 12/9/2020

Case Descr YWA Telecmn. Tower Retrofit

---- Receptor #1 ----

Description Land Use	Baselines (dBA)		
	Daytime	Evening	Night
Houseboat Commercial	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Excavator	No	40		80.7	2000	0
Front End Loader	No	40		79.1	2000	0
Crane	No	16		80.6	2000	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Excavator	48.7	44.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	47.1	43.1	N/A	N/A	N/A	N/A	N/A
Crane	48.5	40.6	N/A	N/A	N/A	N/A	N/A
Total	48.7	47.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Appendix E Manufacturer Noise Specifications

Standby Generators Liquid Cooled 80kW



Gas Engine Generator Sets

Continuous Standby Power Rating:

- EGEN80 (Aluminum) - 80 kW 60Hz
 - Naturally Aspirated
 - Gaseous Fueled
 - Meets 2009 EPA Emission Regulations

Standard Equipment:

- All input connections in one single area
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low coolant level automatic shutdown
- Overspeed automatic shutdown
- Adjustable crank timer
- Adjustable exercise timer
- Oil drain extension
- Cool flow radiator
- Closed coolant recovery system
- UV/Ozone resistant hoses
- Watertight state of the art electrical connectors
- Mainline circuit breaker
- Oil drain extension to frame rail
- Radiator drain extension
- Battery charge alternator
- 2 Amp static battery charger
- Battery and battery cables

- Battery rack
- Fan and belt guards
- Isochronous governor

Features:

- Innovative design and fully prototype tested
- UL2200 Listed
- Solid state frequency compensated digital voltage regulator
- Dynamic and static battery charger
- Sound attenuated acoustically designed enclosure
- Quiet test for low noise level exercise
- Acoustically designed engine cooling system
- High flow low noise factory engineered exhaust system
- State of the art digital control system with HSeries microprocessor control panel
- Built-in kW, kVAR and power factor meters
- Watertight electrical connectors
- Rodent proof construction
- High efficiency, low distortion alternator
- Vibration isolated from mounting base
- Matching Eaton transfer switches engineered and tested to work as a system
- All components easily accessible for maintenance
- Electrostatically applied powder paint

EATON

Table 1.

Specifications	
Generator	
Type	Synchronous
Rotor/Stator Insulation	Class H
Weight	2,010 lbs.
Total Harmonic Distortion	<5%
Telephone Interference Factor (Tif)	<50
Alternator Output Leads 3 Phase	4 wire
Bearings	Sealed Ball
Coupling	Flexible Disc
Excitation System	Brushless
NOTE: Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046, and DIN6271 standards.	
Engine	
Bore	3.55
Stroke	3.54
Compression Ratio	9.4:1
Intake Air System	Naturally Aspirated
Valve Seats	Hardened
Lifter Type	Hydraulic
Oil Pump	Gear
Oil Filter	Full Flow Spin-On Cartridge
Crankcase Capacity	5 Quarts
Cooling System Type	Closed
Water Pump Flow	Belt driven
Fan Speed	1600
Fan Diameter	22 Inches
Fan Mode	Puller
Governor	
Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	± 0.25%
Fuel System	
Type	Natural gas, propane vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	11" - 14" H ₂ O
Voltage Regulator	
Type	Full Digital
Sensing	Three Phase
Regulation	± 1/4%
Features	Built into HSeries Control Panel. Adjustable V/F, Voltage & Gain
Electrical System	
Battery Charge Alternator	12v 30 Amp
Static Battery Charger	12v 2 Amp
Recommended Battery	Group 24F, 525cca
System Voltage	12 Volts

Generator Features:

- Revolving field heavy duty generator
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class H rated at 150 °C rise
- All prototype models have passed three phase short circuit testing

Control Panel Features:

- Two Four Line LCD Displays Read
 - Voltage (all phases)
 - Power factor
 - kVAR
 - Engine speed
 - Run hours
 - Fault history
 - Coolant temperature
 - Low oil pressure shutdown
 - Overvoltage
 - Low coolant level
 - Not in auto position (flashing light)
 - ATS selection
 - Current (all phases)
 - kW
 - Transfer Switch status
 - Low fuel pressure
 - Service reminders
 - Oil pressure
 - Time and date
 - High coolant temperature shutdown
 - Overspeed
 - Exercise speed
- Internal Functions:
 - I2T function for alternator protection from line to neutral and line to line short circuits
 - Emergency stop
 - Programmable auto crank function
 - 2 wire start for any transfer switch
 - Built-in 7 day exerciser
 - Adjustable engine speed at exerciser
 - RS232 port for GenLink® control
 - RS485 port remote communication
 - Canbus addressable
 - Governor controller and voltage regulator are built into the master control board
 - Temperature range -40 °C to 70 °C

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

Table 2.

Operating Data			
kW Rating (Load Capacity/Standby Rating)	80		
Engine Size	4.6 Liter V-Type 8 Cylinder		
Generator Output Voltage/kW - 60hz	kW	Amp	CB Size
120/240v, 1-Phase, 1.0 Pf	80	333	400
120/208v, 3-Phase, 0.8 Pf	80	278	300
277/480v, 3-Phase, 0.8 Pf	80	120	150
Generator Locked Rotor Kva Available @ Voltage Dip Of 35%			
Single phase or 208 3-phase 480v 3-Phase	160 185		
Engine Fuel Consumption	Natural Gas	Propane	
	(ft³/hr.)	(gal/hr.)	cu ft/hr
Exercise cycle	131	1.45	53
25% of rated load	312	3.45	126
50% of rated load	600	6.64	241
75% of rated load	835	9.25	336
100% of rated load	1154	12.78	4.65
Engine Cooling			
Air flow (inlet air including alternator and combustion air) ft³/min.	5,300		
System coolant capacity US gal.	4.0		
Heat rejection to coolant BTU/hr.	316,000		
Max. operating air temp. on radiator °C (°F)	60 (150)		
Max. ambient temperature °C (°F)	50 (140)		
Combustion Air Requirements			
Flow at rated power 60 Hz cfm	205		
Sound Emissions In DbA			
Exercising at 7 meters	64		
Normal operation at 7 meters	74		
Exhaust			
Exhaust flow at rated output 60 Hz cfm	720		
Exhaust temp. at muffler outlet °F	840		
Engine Parameters			
Rated synchronous RPM 60 Hz	3600		
HP at rated KW 60 Hz	126		
Power Adjustment For Ambient Conditions			
Temperature Duration 3% for every 10 °C above - °C 1.65% for every 10 °F above - °F	25 77		
Altitude Duration 1% for every 100 m above - m 3% for every 1000 ft. above - ft.	183 600		

RATING: All three phases units are rated at 0.8 power factor. All single phase units are rated at 1.0 power factor. **STANDBY RATING:** Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

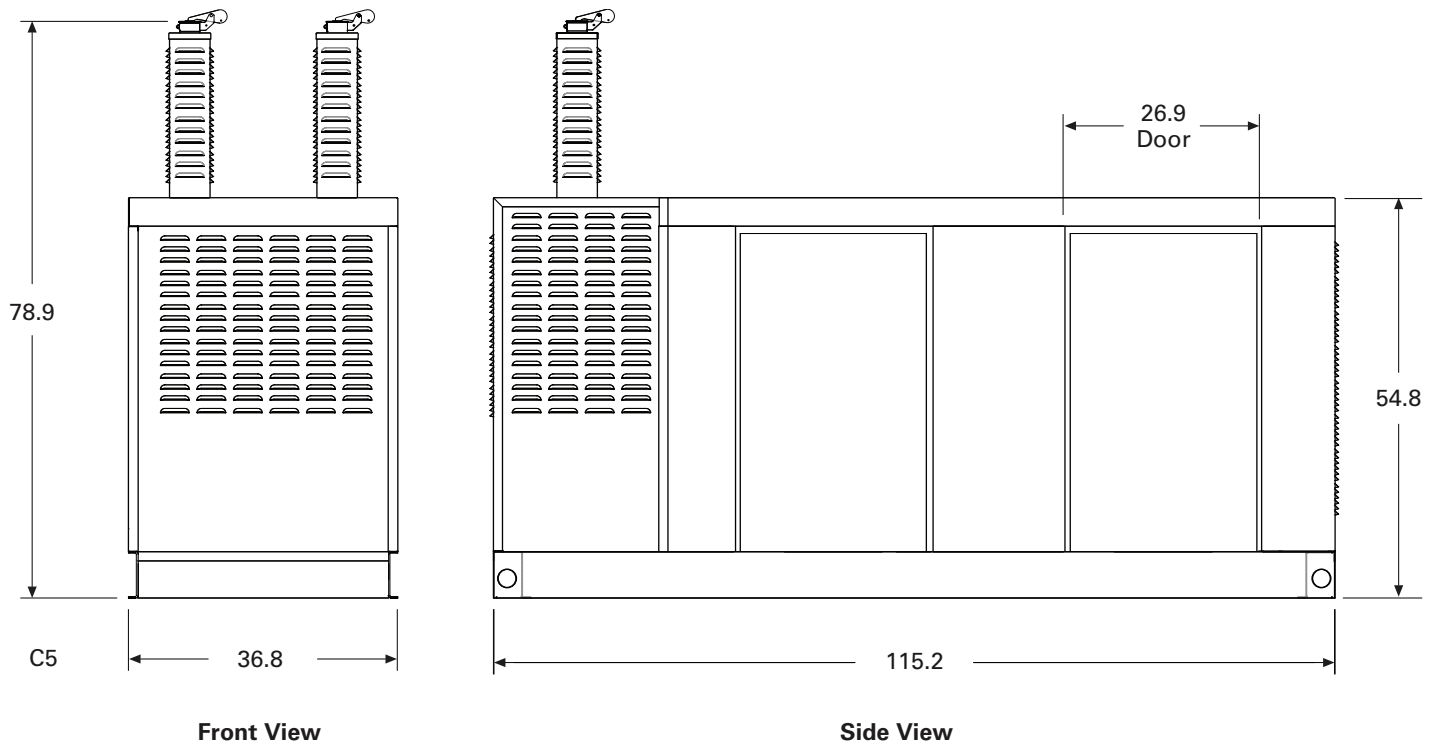


Figure 1. Installation Layout

Note: Doors access from both sides.

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