Crazy Horse Canyon Switching Station Project

Draft IS/MND

March 2011

Prepared for:

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

Prepared by:

RMT, Inc.
4 West Fourth Avenue, Suite 303
San Mateo, California 94402

Crazy Horse Canyon Switching Station Project

Draft IS/MND

March 2011

Prepared for:

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

Prepared by:

RMT, Inc.
4 West Fourth Avenue, Suite 303
San Mateo, California 94402

Table of Contents

LIST OF FIGURES

LIST OF TABLES

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

MITIGATED NEGATIVE DECLARATION

CRAZY HORSE CANYON SWITCHING STATION PROJECT

Lead Agency: California Public Utilities Commission
Energy Division
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Contact: Andrew Barnsdale, Project Manager
(415) 703-3221 or andrew.barnsdale@cpuc.ca.gov

PROJECT INFORMATION

Project: Crazy Horse Canyon Switching Station Project
Monterey County, California

Proponent: Pacific Gas and Electric Company
77 Beale Street
San Francisco, California 94105
(800) 743-5000

DESCRIPTION OF PROJECT

PG&E proposes to construct and operate the Crazy Horse Canyon Switching Station Project. The project is located north of the City of Salinas in Monterey County, northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road.

The Crazy Horse Canyon Switching Station would replace the Lagunitas Switch, an existing power line tower located approximately 850 feet west of the proposed switching station site. The Lagunitas Switch would be removed once the Crazy Horse Canyon Switching Station is operational, and the 115 kV lines that enter and leave the new switching station would be sectionalized and renamed. No new power lines would be constructed as part of the project.

REQUIRED APPROVALS

The proposed project would require federal and state permits for ground-disturbing work in seasonal wetlands located within the project area. Local permits also would be required to construct a permanent access road from a public road right-of-way and to conduct welding, grading, and certain building activities.

Table 1 lists the potential permits and approvals necessary for completing switching station construction activities.

Table 1: Permits and Approvals That May Be Required

Permit/Approval	Agency	Jurisdiction/Purpose
Federal Agencies		
Section 7 Consultation (Biological Opinion)	U.S. Fish and Wildlife Service (USFWS)	Federally listed threatened and endangered species
Clean Water Act (CWA) Section 404 Nationwide Permit	U.S. Army Corps of Engineers (USACE)	Waters of the United States and their tributaries
State Agencies		
Permit to Construct (PTC)	California Public Utilities Commission (CPUC)	Overall project approval and California Environmental Quality Act (CEQA) review
National Pollutant Discharge Elimination System (NPDES) — General Construction Storm Water Permit	State Water Resources Control Board (SWRCB)	Permit required for all construction projects that disturb more than 1 acre
Section 401 Water Quality Certification (or waiver thereof)	California Regional Water Quality Control Board, Central Coast Region (RWQCB)	Certification that the project is consistent with state water quality standards
Section 2080.1 Consistency Determination	California Department of Fish and Game (CDFG)	Impacts to state-listed species (if required)
Section 2081(b) Incidental Take Permit for State-listed Species	CDFG	Impacts to state-listed species (if required)
Section 106 Consultation (National Historic Preservation Act)	State Historic Preservation Office (SHPO)	Consultation with lead federal agency regarding impacts to cultural resources (if required)
Section 1602 Streambed Alteration Agreement	CDFG	Impacts to streambeds as a result of project activities (if required)
Local Agencies		
Roadway Encroachment Permit	Monterey County	Ministerial permit to install station access road from public road right-of-way
Welding, Grading, and Building Permits	Monterey County	Ministerial permission to conduct welding, grading, and certain building activities

ENVIRONMENTAL DETERMINATION

Based upon an Initial Study, it is determined that the proposed project WOULD NOT HAVE a significant effect on the environment with the incorporation of the proposed Applicant Proposed Measures (APMs) and mitigation measures (attached). The Initial Study is available for review at the CPUC, 505 Van Ness Avenue, San Francisco, California 94102.

3/4/2011

Andrew Barnsdale
Project Manager

Date

APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Pursuant to the Public Resources Code and the State CEQA Guidelines, the Lead Agency (CPUC) has prepared an Initial Study for the proposed project to evaluate the project's potential effects on the environment. The Initial Study has identified potential impacts associated with project implementation. The project description includes APMs that would reduce potential impacts. Mitigation measures would be implemented to reduce potential impacts to less than significant levels.

Aesthetics

APM Aesthetics-1. Construction activities will be kept as clean and inconspicuous as practical. Where practical, construction storage and staging will be screened from close-range residential views.

APM Aesthetics-2. All disturbed terrain at the switching station site will be restored through recontouring and revegetation using a seed and plant mixture approved by a qualified landscape/ horticultural professional.

APM Aesthetics-3. Project landscaping will screen views of the new facility and help integrate its appearance with the surrounding landscape setting. Project landscaping will involve the installation of informal groupings of native trees and shrubs around the perimeter of the switching station and along San Juan Grade Road in order to provide visual screening.

APM Aesthetics-4. Non-specular conductors will be used to reduce the potential for new sources of glare. A non-reflective finish will be used for switching station equipment to reduce the potential for new sources of glare.

APM Aesthetics-5. The project will incorporate use of an entry gate design to blend in with the existing rural setting found along on San Juan Grade Road and the general project area.

Mitigation Measure Aesthetics-6. PG&E shall implement the following measures to reduce construction-related visual effects as seen from the KOPs and within the immediate surroundings of the project area:

1. Grading and construction limit lines shall be delineated on the ground for all access roads and power line routes.
2. Construction equipment shall be removed from the project area when no longer needed.
3. All ground disturbances caused by construction, staging, and temporary access road construction shall be restored and revegetated at the earliest feasible time.

Mitigation Measure Aesthetics-7. PG&E shall use the following method to promote healthy revegetation of slopes constructed for the entrance road and switching station to reduce visual contrast:

1. In areas to be graded, all topsoil up to a depth of 1 foot shall be removed, stockpiled, and used as a final fill layer on constructed slopes.

Mitigation Measure Aesthetics-8. PG&E shall prepare and submit to Monterey County for review a full set of plans and specifications based on the Conceptual Landscape Plan presented on Figure 3.1-5, with the following additions and/or changes to the plan recommendations:

1. The planting design shall emphasize visual screening of the switching station and related facilities as seen from San Juan Grade Road or Old Stage Road and take into consideration biological mitigation measures.
4. New trees and shrubs to be installed at the site shall be locally grown, to the extent feasible. New plant material may include nursery grown stock and, if feasible, propagules locally collected and grown to a maximum dee-pot or tree-pot container size. Tree and shrub planting shall occur in fall or early winter when the rainy season has commenced.

Air Quality

APM Air Quality-1. The project will implement all of the following Best Management Practices (BMPs):

1. Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure.
2. Suspend all grading activities during periods of high wind (over 15 miles per hour (mph)).
3. Apply chemical soil stabilizer on inactive construction areas (defined as disturbed lands within the project area that are unused for at least four consecutive days).
4. Apply non-toxic soil binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area.
5. Cover all trucks hauling dirt, sand or loose materials.
6. Plant vegetative ground cover in disturbed areas as soon as possible.
7. Cover inactive storage piles.
8. Install wheel washers at the entrance to construction sites for all exiting trucks.
9. Sweep public roads if visible soil material is carried out from the construction site.
10. Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours.

11. The phone number of the Monterey Bay Unified Air Pollution Control District (MCUAPCD) shall be visible to ensure compliance with Rule 402 (nuisance).
12. Limit the area of earth disturbing activities at any one time.

Greenhouse Gases

APM GHG-1. PG&E will implement the following measures to address GHG emissions:

1. Identify park-and-ride facilities in the project vicinity and encourage construction workers to carpool to the job staging area to the extent feasible. The ability to develop an effective carpool program for the proposed project will depend upon the proximity of carpool facilities to the staging area, the geographical commute departure points of construction workers, and the extent to which carpooling will not adversely affect worker arrival time and the project's construction schedule.
2. Minimize unnecessary idling time – less than the 5-minute maximum idling required by law – through application of a "common sense" approach to vehicle use. If a vehicle is not required immediately or continuously for construction activities, its engine will be shut off. Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
3. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the California Air Resources Board (CARB) Statewide Portable Equipment Registration Program, or will meet at a minimum U.S. Environmental Protection Agency (EPA)/CARB Tier 1 engine standards. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program, or will meet at a minimum USEPA/CARB Tier 1 engine standards.
4. Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
5. Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.
6. Encourage the recycling of construction waste where feasible.

APM GHG-2. To further avoid and minimize potential SF_6 emissions, PG&E will incorporate the following measures:

1. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF_6 emission reduction program. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF_6 emission reduction program. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor SF_6 leakage rates in order to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of EPA's SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak rate by 89 percent and absolute SF_6 emissions by 83 percent.
2. Require that Crazy Horse Canyon Switching Station's breakers have a manufacturer's guaranteed leakage rate of 0.5 percent per year or less for SF_6.
3. Maintain substation breakers in accordance with PG&E's maintenance guidelines.
4. Comply with California Air Resources Board Early Action Measures as these policies become effective.

APM GHG-3. In addition to these measures, PG&E is implementing the following voluntary company-wide actions to further reduce GHG emissions:

1. Pacific Gas & Electric Company supports the Natural Gas STAR, a program promoting the reduction of methane from natural gas pipeline operations. Since 1998, PG&E has avoided the release of thousands of tons of methane.
2. In June 2007, PG&E launched the ClimateSmart program, a voluntary greenhouse gas (GHG) emissions reduction program that allows its customers to balance out the GHG emissions produced by the energy they use, making their energy use "climate neutral." For ClimateSmart customers, PG&E calculates the amount needed to fund sufficient GHG emissions reduction projects in California to make their energy use "climate neutral." This is added to the customer's monthly energy bill and is tax deductable.
3. Pacific Gas & Electric Company is offsetting all of the GHG emissions associated with energy used in PG&E's buildings by participating in its ClimateSmart program. In 2007, this amounted to over 50,000 tons of CO_2 reductions.
4. California Air Resources Board plans to adopt AB-32 Early Action Measures to reduce GHG emissions. PG&E will implement the appropriate Early Action Measures as they become effective.

Biological Resources

APM Biology-1. All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers. Trash containers will be removed from the project area at the end of each working day.

APM Biology-2. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road parking shall only be permitted in previously identified and designated work areas.

APM Biology-3. Vehicles will be confined to established roadways and pre-approved access roads, overland routes and access areas. Access routes and temporary work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Vehicular speeds will be kept to 15 mph on unpaved roads.

APM Biology-4. All equipment will be maintained such that there will be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated staging areas located at least 100 feet from any down gradient aquatic habitat unless otherwise isolated from habitat. Proper spill prevention and cleanup equipment shall be maintained in all refueling areas.

APM Biology-5. No pets or firearms will be permitted at the project site.

Mitigation Measure Biology-6 (proposed to supersede APM Biology-6). Clearing and grading activities shall be limited to work areas only. Grading and vegetation-clearing activities shall be minimized along access roads and at pole and tower work areas. Vegetation shall be cut at ground level, leaving the existing root systems intact where possible.

APM Biology-7. In areas that will be restored following construction of the facility, PG&E will minimize clearing of oaks to only what is required to maintain a safe facility. In these areas, PG&E will endeavor to retain a representative sample of sizes, ages and species of oaks with special emphasis placed on retaining samplings.

Mitigation Measure Biology-8 (proposed to supersede APM Biology-8). A USFWS-approved biologist shall design and lead a Worker Environmental Awareness Program (WEAP) for all construction and on-site personnel prior to beginning construction activities. Training shall include a discussion of avoidance and minimization measures to be implemented to protect biological resources, as well as the terms and conditions of the Biological Opinion and other permits. Training shall include information on the federal and state ESAs, the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act, and the consequences of noncompliance with these acts. Workers shall be informed of the presence, life history, and habitat requirements of all special-status species, including the CRLF, with a potential to be affected within the project area. The training shall include a description of the CRLF and its habitat and the importance of the CRLF and its habitat, along with the general measures that are being implemented to conserve the CRLF, as they relate to the project. Training shall include information on state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure shall be produced for construction crews working on the project. The brochure shall include color photos of sensitive species as well as a discussion of mitigation measures. No construction worker shall be involved in field operations without having participated in this special-status species/sensitive habitat informational training. A copy of the

WEAP shall be submitted to the CPUC at least 30 days prior to construction. Training attendance sheet(s) shall be submitted to the CPUC after each training session.

APM Biology-9. A qualified biological monitor will be on site during all ground-disturbing construction activities in or near sensitive habitats previously identified. The monitor will ensure implementation of and compliance with all APMs. The monitor will have the authority to stop work or determine alternative work practices in consultation with agencies and construction personnel as appropriate if construction activities are likely to impact sensitive biological resources. The biological monitor will complete daily logs to document construction activities and environmental compliance. The daily logs will be included in the project report submitted to the appropriate agencies following completion of construction. The biological monitor will be responsible for reporting any capture and relocation, harm, entrapment, or death of a listed species to the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Game (CDFG) and for reporting any permit violations in a timely manner and as indicated in their respective permits.

APM Biology-10. Sensitive resources identified during pre-construction surveys in the project vicinity will be mapped and clearly marked in the field. Such areas will be avoided during construction to the extent practicable and/or additional measures specific to sensitive species types as described herein and that may be required by the United States Army Corps of Engineers (USACE), USFWS, CDFG, and Regional Water Quality Control Board (RWQCB) permits, will be implemented to avoid or minimize impacts.

APM Biology-11. PG&E will design the project to avoid the intermittent drainages and seasonal wetlands to the extent practicable. However, where impacts to the drainages and wetlands cannot be avoided PG&E will provide compensation as required by the USACE, USFWS, CDFG, and RWQCB.

APM Biology-12. Work in aquatic or wetland habitat is limited to the installation of the permanent access road in the wetland located adjacent to San Juan Grade Road. All ground-disturbing work at this location will take place in dry conditions.

APM Biology-13. PG&E will obtain coverage under the Construction Storm Water Permit Program and implement BMPs for erosion and sediment control.

APM Biology-14. A Stormwater Pollution Prevention Plan (SWPPP) will be developed that describes sediment and hazardous materials control, fueling and equipment management practices, and other factors deemed necessary for the project. Erosion control measures will be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, and waters of the state, as well as aquatic habitat occupied by sensitive species. Erosion control measures will be monitored on a regularly scheduled basis, particularly during times of heavy rainfall. Corrective measures will be implemented in the event erosion control strategies are inadequate. Sediment/erosion control measures will be continued in the project area until such time that soil stabilization is deemed adequate. Brush or other similar debris material will not be placed within any stream channel or on its banks. No project work activity is planned within the limits of any stream channel.

APM Biology-15. PG&E has and will implement its system-wide program which includes established procedures for handling and managing hazardous substances and emergency response in the event of a hazardous substance spill. These procedures will add to the requirements in the project SWPPP.

APM Biology-16. PG&E will prepare a Fire Prevention and Response Plan that will include reducing the potential for igniting combustible materials. The procedures will cover electrical hazards, flammable materials, smoking, vehicle and equipment access, and fire watches during construction and maintenance procedures during subsequent operation. Project personnel will be directed to park away from dry vegetation; not to smoke; and to equip vehicles with appropriate firefighting equipment; such as water dispensers and shovels, in times of high fire hazard.

Mitigation Measure Biology-17 (proposed to supersede APMs Biology-17 and Biology-18). The applicant shall comply with the following surveys and procedures:

1. All special-status plant species will be clearly flagged prior to construction and impacts to special-status plants shall be avoided if possible.
2. Focused botanical surveys shall be conducted in July and September in work areas, along access roads, in temporary work areas, or within the right-of-way to determine if additional special-status plant species that have the potential to occur are present within the work areas. Any special-status plant species that are observed shall be enumerated and mapped. If surveys are not possible in all work areas during the months of July and September because of the construction schedule, information from past surveys will be used to delineate special-status plant populations.
3. Prior to construction, special-status plant species within the work areas that have the potential to be impacted shall be enumerated, photographed, and conspicuously flagged to maximize avoidance, as well as to determine the total number of individuals affected. Entire areas may be flagged to maximize avoidance. Timing of field surveys and flagging shall correspond with the blooming period when the species is most conspicuous and easily recognizable. If timing of field surveys and flagging must occur outside of the appropriate blooming period, the map and global positioning system locations collected during focused botanical surveys can be used to flag locations for avoidance.
4. Work areas within occupied habitat shall be limited to existing access roads and to the minimal area practical. Staging areas, spoils storage, and equipment/vehicle parking shall occur in designated areas outside of occupied habitat.
5. If possible for annual special-status plant species, timing of work activities within occupied habitat shall occur prior to the fall rains and after seeds have set to minimize project impacts on the seed bank.
6. Seeds from special-status plant species with mature seed that are likely to be impacted shall be collected and properly stored for post-construction propagation and re-establishment. Individuals that are likely to be impacted shall be translocated by digging up plants and replanting in suitable habitat under the supervision of the project biologist and with authorization from USFWS and/or CDFG.
7. If grading occurs in occupied habitat of special-status plant species, then the first 6 inches of topsoil shall be stored separately on site and protected from exotic weed

seed dispersal. The purpose of the topsoil collection is to salvage any viable seeds in the seed bank by returning this soil horizon to its appropriate place in the profile.

8. In the event that any special-status plants cannot be avoided, PG&E shall consult with the USFWS and/or the CDFG (depending on whether the species is on the federal and/or state list of sensitive species) to determine appropriate measures to minimize effects to the species and its habitat during construction of the project, as well as during operation and maintenance. The CPUC shall be informed of the results of any agency consultations. A mitigation and monitoring plan may be required that details impacts to special-status plant species and outlines remedial actions to mitigate impacts. Monitoring may be required for subsequent years to monitor mitigation activities and plant recovery.

In addition to these avoidance measures, the following plant-specific measures shall be implemented:

Pajaro Manzanita and Pajaro Manzanita Chaparral

a. Removal of entire Pajaro manzanita plants from the ground shall be avoided and stumps and roots shall be retained. The applicant shall avoid damage to shrub branches where possible. The applicant shall hand-prune manzanita plants where clearance is necessary and leave stumps in place. Pruning shall not come within 6 inches of the ground surface to avoid disturbing the seed bank and to leave the stump in place. The applicant shall remove and discard all damaged branches to non-maritime chaparral sites to avoid manzanita dieback.

b. If possible, pruning of manzanita shall occur after the plants have dispersed seed for the year (late summer/early fall), and before flowering begins (typically in December). Any branches with mature seed that are likely to be impacted shall be salvaged and the seed stored until work is complete. When the timing is appropriate after the start of the rainy season, collected seed shall be sown in appropriate locations on the project site as determined by the project biologist.

c. A Revegetation and Monitoring Plan shall be prepared for the areas of temporary disturbance where Pajaro manzanita occurs and for other disturbed areas of the project site. This plan shall be implemented during construction and for 3 years thereafter. Disturbed areas, other than existing access roads, shall be stabilized and revegetated with appropriate (conducive with PG&E line clearance requirements) native species or as approved by the landowner. The Revegetation and Monitoring Plan shall include the planting of salvaged Pajaro manzanita seed if Pajaro manzanitas were impacted. If applicable, the site shall be monitored following construction to prevent establishment of weeds and to ensure the successful reestablishment of native species.

Monterey Spineflower

a. If impacts occur to the Monterey spineflower, the applicant shall monitor the response of plants in impacted areas in subsequent growing seasons following project construction. If necessary, the applicant shall also augment the Monterey spineflower population through supplemental seeding from garden-grown seed.

APM Biology-19. Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.

APM Biology-20. Best Management Practices such as silt fencing, hay bales, or fiber rolls, will be placed near the intermittent drainages and seasonal wetlands to prevent sedimentation runoff from flowing into Gabilan Creek.

Mitigation Measure Biology-21 (proposed to supersede APM Biology-21). Pre-construction surveys for CRLF and CTS shall be conducted by a USFWS/CDFG-approved biologist no more than five days prior to the initiation of any ground disturbing activities within 600 feet of suitable aquatic or upland habitat. Visual encounter surveys shall be conducted within areas subject to ground disturbing activities. All suitable aquatic and upland habitat including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, *etc.*, shall be thoroughly inspected. If a CRLF or CTS is observed prior to or during construction, work within 250 feet of the animal sighting shall halt (once safe to do so) and shall not proceed until the USFWS/CDFG are contacted to determine what actions shall be taken, unless such actions have been approved by USFWS/CDFG in advance of project construction. If no CRLF or CTS are observed during the pre-construction surveys, construction shall commence as scheduled.

Mitigation Measure Biology-22 (proposed to supersede APM Biology-22). Ground-disturbing construction activities within 600 feet of suitable CRLF and CTS habitat shall not occur during the wet season when CRLF and CTS are most active, *i.e.*, moving to and from breeding sites and foraging further upland from aquatic features. Construction shall be limited to the time period from May 1 to October 15 or as approved by CDFG and USFWS.

Mitigation Measure Biology-23 (proposed to supersede APM Biology-23). Prior to the commencement of construction activities, flagging, signage, and/or high visibility fencing shall be erected around the CRLF, CTS, and coast range newt aquatic habitat to identify and protect it from the encroachment of personnel and equipment. These areas shall be avoided by all construction personnel. The fencing shall be inspected before the start of each workday and maintained until completion of the activity. Once the project site is prepared and work is only occurring in the switching station shall the fencing be removed. Only tightly woven netting or similar material shall be used for all geo-synthetic erosion control materials such as coir rolls and geo-textiles. No plastic monofilament matting shall be used for erosion control measures.

APM Biology-24. Construction activities within 600 feet of suitable aquatic habitat shall not begin prior to 30 minutes after sunrise and will cease no later than 30 minutes before sunset.

APM Biology-25. Plywood sheets will be used to temporarily cover potentially active burrows in work areas within 600 feet of suitable aquatic habitat. Burrows will be covered after re-location has taken place, if necessary, or otherwise specified in the Biological Opinion or Incidental Take Permit.

Mitigation Measure Biology-26 (proposed to supersede APM Biology-26). Prior to the start of construction, PG&E shall obtain an Incidental Take Permit from CDFG for CTS.

Mitigation Measure Biology-27 (proposed to supersede APM Biology-27). Pre-construction bird nesting surveys in the project area shall be conducted no more than 30 days before work is performed between February 1 and August 15. To the extent possible, working in the vicinity of active nests shall be avoided; however, if avoidance is not practicable, a buffer zone of 250 feet shall be maintained around the active nest to prevent nest abandonment or disturbance. In the event that work shall take place within 250 feet (500 feet for raptors) of an active nest, a biological monitor shall monitor the activity of the nesting birds during work to determine if construction activities are resulting in significant disturbance to the birds. If the biologist determines that work is disrupting nesting activities, then work in that area shall be halted until nesting is completed and the young have fledged.

Mitigation Measure Biology-28 (proposed to supersede APMs Biology-25 and Biology-28). No more than 30 days prior to the start of construction, preconstruction surveys for burrowing owls will be conducted in accordance with agency survey protocols to identify any burrowing owl or secondary sign of burrowing owls should any burrowing owls move onto the project area prior to construction. If ground-disturbing activities in suitable habitat are delayed or suspended for more than 30 days after the pre-construction surveys, the site will be resurveyed. If no burrowing owls are detected, no further mitigation is necessary. If active burrows are found near a work area, work in the vicinity of the burrows will be limited as follows:

1. No disturbance will occur within approximately 160 feet (50 meters) of occupied burrows during the non-breeding season of September 1 through January 31, or within approximately 250 feet (75 meters) during the breeding season of February 1 through August 31. Based on the site conditions and sensitivity of individual owl(s), the non-disturbance buffer may be extended if requested by CDFG.
2. The limits of the exclusion zone in the project work area will be clearly marked with signs, flagging and/or fencing.
3. If work within these limits is unavoidable while burrows are active, work will only take place within the presence of a qualified monitor who would monitor to determine if the owls show signs of disturbance or, upon prior approval from CDFG a passive relocation effort (displacing the owls from the work area) may be conducted as described below, and subject to the approval of the CDFG. Through communication with the Resident Engineer or their designee, the biologist will have the authority to stop work if deemed necessary for any reason to avoid impacts to burrowing owls and will advise the Resident Engineer or designee on how to proceed accordingly.
4. Passive relocation of owls may occur during the non-breeding season (September 1 through January 31) only with approval from CDFG. Passive relocation would include installing one-way doors on the entrances of burrows. The design of one-way doors should be determined in cooperation with CDFG. The one-way doors would be left in place for one week and monitored a minimum of twice daily for signs of birds that are unable to exit the burrow to ensure the owls have vacated the nest site. Owls would not be relocated during the breeding season, *i.e.* from February 1 to August 31. If burrowing owls are passively relocated, CDFG will be contacted to determine if compensation for loss of burrowing owl breeding burrows and surrounding habitat is necessary.

Mitigation Measure Biology-29 (proposed to supersede APM Biology-29).-Pre-construction surveys, *i.e*. visual encounter surveys using binoculars, shall be conducted for all areas that provide suitable bat roosting habitat, including man-made structures, snags, rotten stumps, mature trees with broken limbs, trees with exfoliating bark, bole cavities or hollows, dense foliage, *etc.* Sensitive habitat areas and roost sites shall be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary.

If suitable roosting habitat is identified, the following measures shall be conducted:

1. A qualified biologist shall survey suitable roost sites immediately prior to the removal or grading of rock outcroppings, debris piles, man-made structures, *etc.*

2. Removal of suitable tree roost sites shall be conducted by first removing limbs smaller than 3 inches in diameter and peeling away loose bark. The tree shall then be left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period.

3. A qualified biologist shall survey the trees/snags a second time the following morning prior to felling and removal.

4. Trees shall be removed outside of the breeding season, *i.e.* from September 1 to March 1, to avoid disturbance to maternal colonies.

Mitigation Measure Biology-30 (proposed to supersede APM Biology-30). If following the implementation of the agency-approved Avian Protection Plan and implementation of PG&E's most current version of Bird and Wildlife Protection Standards, a bird electrocution still occurs at the project site, PG&E will implement the following corrective actions as outlined in the Avian Protection Plan Implementation document:

1. PG&E will notify the USFWS and CDFG of a bird strike for any special-status species and any raptor species within 3 working days of the discovery.
2. If a raptor or a special status species bird is electrocuted on distribution (pole or mid-span), transmission, or substation facilities, the first line supervisor or designee (incident investigator) shall visit the incident site as soon as possible following the incident. The incident investigator shall be qualified, because of knowledge, training, and work experience, to evaluate and assess bird-related incidents, poles, or other structures.
3. The incident investigator will recommend retrofits with avian-safe devices if the incident involved a raptor and schedule any retrofit work to be completed as soon as practical, based on material availability, facility accessibility, clearances, etc.
4. If avian program management personnel determine that certain poles or structures present a particularly high risk to raptors, they may require that work to make the poles or structures avian-safe be completed within 30 days or less. The criteria for making this determination may include, but is not limited to, the following circumstances:
    a. Electrocuted eagle, threatened, or endangered species
    b. Multiple raptor electrocutions at the same location
    c. Multiple electrocutions in close proximity and within a recent time frame

d. Agency requests

Mitigation Measure Biology-31 (proposed to supersede APM Biology-31). A qualified biologist will survey the project area for badger dens prior to construction. If a badger den is found, the biologist will monitor the den to determine if it is actively being used by a badger. The biologist will determine this based on visual observation of the burrow or using camera traps to document its presence. Since badgers frequently changes dens, the biologist will monitor active dens to determine when the badger(s) is no longer using the den. If it is determined to be an active breeding den, a 250 foot exclusion buffer will be established and CDFG will be contacted to determine how to proceed. If no badger dens are found or if potential dens are determined not to be active, no further mitigation is necessary.

Mitigation Measure Biology-32 (proposed to supersede APM Biology-32). PG&E shall clean equipment and vehicles prior to arriving on site. Equipment shall be inspected and cleaned as needed prior to use in areas with rare plants. All plant material (e.g., straw, mulch, and seeds) used for erosion control and/or road maintenance shall be weed-free. If weed-free straw or mulch is not available, rice straw and mulch shall be used. The project biologist shall ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed. Seed mixes shall be approved by a biologist prior to application. Where possible, local or on-site seed sources shall be used.

Mitigation Measure Biology-33. A USFWS/CDFG-approved biologist shall be present onsite to monitor for CRLF and CTS. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to protect listed species and shall advise the Resident Engineer or designee on how to proceed accordingly. The biologist shall be present during all construction activities where take of a listed species could occur. The biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or immediately adjacent to suitable CRLF and CTS habitat.

Mitigation Measure Biology-34. Preconstruction surveys shall be conducted by a qualified biologist immediately prior to the initiation of any ground disturbing activities within or immediately adjacent to suitable southwestern pond turtle, black legless lizard, and coast range newt habitat. Visual encounter surveys shall be conducted within or immediately adjacent to areas subject to ground disturbing activities. All suitable aquatic and upland habitat for turtles and/or coast range newts, and friable soils within northern mixed chaparral/central maritime chaparral and oak woodland habitat for black legless lizards shall be thoroughly inspected. If a southwestern pond turtle, coast range newt, or black legless lizard is observed, work within 250 feet of the animal shall halt (once safe to do so) and shall not proceed until the CDFG is contacted to determine what protective actions shall need to be taken unless protective actions have been approved by CDFG in advance of project construction. If no southwestern pond turtles and black legless lizards are observed during the preconstruction surveys, construction shall commence as scheduled.

Mitigation Measure Biology-35. A qualified biologist shall be present onsite to monitor for southwestern pond turtles, black legless lizards, and coast range newt. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to protect these species and shall advise the Resident Engineer or designee on how to proceed accordingly. The biologist shall be present during all construction activities that may impact these species. The biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or immediately adjacent to suitable southwestern pond turtle, black legless lizard, and coast range newt habitat.

Mitigation Measure Biology-36. No more than 30 day prior to the start of construction, for construction activities scheduled to begin during the breeding season from February 1 to August 31, a USFWS-approved biologist will conduct nest and point count surveys within one mile of the project footprint for golden eagles and white-tailed kites, unless otherwise directed by CDFG and/or USFWS. If surveys take place prior to February 15, then surveys will be repeated to detect any nesting activity. Unless otherwise approved by USFWS and/or CDFG, if active nests are found, they shall be monitored and, if it is determined that construction activities are causing nest disturbance, a no-disturbance buffer of 1,000 feet around eagle nests and/or 500 feet around white-tailed kite nests shall be observed until the young have fledged or as otherwise directed

Mitigation Measure Biology-37. Monitoring guidelines will be provided in an Avian Protection Plan to be submitted to the USFWS and CDFG for review and approval prior to construction. Documentation of Plan approval will be submitted to the CPUC for recordkeeping.

Mitigation Measure Biology-38. To reduce the risk of bird electrocution and bird strikes, installation of the new distribution line and the reconfigured power lines will conform to PG&E's most current version of Bird and Wildlife Protection Standards, and may include the use of bird guards.

Mitigation Measure Biology-39. To minimize disturbance due to helicopter operations, PG&E will avoid helicopter flights near known active nesting bird sites as determined in consultation with the USFWS and/or CDFG.

Mitigation Measure Biology-40. Oak tree removal shall be avoided to the maximum extent possible. In agreement with the Monterey County Preservation of Oak and Other Protected Trees Ordinance, oak trees will be replaced at a one-to-one ratio or as determined in consultation with Monterey County. Prior to construction, oak trees greater than 6 inches in diameter at two feet above ground level that need to be removed within the work areas shall be enumerated to determine the total number of individuals affected. A description of the species, diameter at two feet above ground level, estimated height, and general health of the trees to be removed shall be recorded. Oak trees will be replaced or transplanted at a one-to-one ratio as shown in the Conceptual Landscaping Plan (Figure 3.1-4). As detailed in mitigation measure Aesthetics-10, PG&E shall submit to Monterey County, and work closely with the County on, a full set of plans and specifications based on the Conceptual Landscape Plan presented on Figure 3.1-4 prior to construction.

Cultural Resources

Mitigation Measure Cultural-1. PG&E shall design and implement a Worker Environmental Awareness Program that shall be provided to all project personnel who may encounter and/or alter unique archaeological properties, historical resources, or paleontological resources, including construction supervisors and field personnel. No construction worker shall be involved in field operations without having participated in the Worker Environmental Awareness Program. The Worker Environmental Awareness Program shall include, at a minimum:

1. A review of archaeology, history, prehistory, and Native American cultures associated with historical resources in the project vicinity.
2. A review of photographs and figures of potential historical resources, unique archaeological properties, and paleontological resources in the project area.
3. A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to historical preservation.
4. A discussion of procedures to be followed in the event that unanticipated paleontological or cultural resources are discovered during implementation of the project.
5. A discussion of disciplinary and other actions that could be taken against persons violating historical preservation laws and PG&E policies.
6. A statement by the construction company or applicable employer agreeing to abide by the Worker Environmental Awareness Program, PG&E policies, and other applicable laws and regulations.

The Worker Environmental Awareness Program may be conducted in concert with other environmental or safety awareness and education programs for the project. Worker Environmental Awareness Program training materials and/or presentations shall be submitted to the CPUC for review and recordkeeping requirements prior to the start of training sessions and prior to the start of construction.

Mitigation Measure Cultural-2 (proposed to supersede APM Cultural-2). In the unlikely event that previously unidentified cultural or paleontological resources are uncovered during implementation of the project, all work within 165 feet (50 meters) of the discovery shall be halted and redirected to another location. PG&E's cultural resources specialist, paleontological resources specialist, or his/her designated representative shall inspect the discovery and determine whether further investigation is required. If the cultural discovery can be avoided and no further impacts would occur, then the cultural resource shall be documented on California Department of Parks and Recreation cultural resource record forms and no further effort shall be required. If the cultural resource cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance and CRHR eligibility of the resource and implement data recovery excavation or other appropriate treatment measures if warranted. Similarly, if the paleontological resource is significant, but can be avoided and no further impacts shall occur, then the paleontological resource shall be documented in the appropriate paleontological resource records and no further effort shall be required. If the paleontological resource is significant, but cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance of the paleontological

resource and implement data recovery excavation or other appropriate treatment measures as recommended by a qualified paleontologist.

APM Cultural-3. In the event human remains are encountered during the project, work within 50 feet of the find will be halted and the County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage Commission, who will then designate a Most Likely Descendent. The Most Likely Descendent will consult with PG&E's archaeologist to determine further treatment of the remains.

Geology and Soils

APM Geology-1. Surface disturbance will be minimized to the extent consistent with safe and efficient completion of the project scope of work.

APM Geology-2. Topsoil will be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil will be used to reclaim areas of temporary construction disturbance. Once temporary surface disturbances are complete, areas that will not be subject to additional disturbance will be stabilized by landscaping.

APM Geology-3. Erosion control BMPs will be implemented where grading occurs.

Mitigation Measure Geology-4. Construction slopes and existing natural slopes impacted by construction operations (e.g., cut and fill and road construction) shall be evaluated for stability. Construction slopes and grading plans shall be designed to limit the potential for slope instability and minimize the potential for erosion and flooding during construction. Construction activities likely to result in slope instability shall be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.

Mitigation Measure Geology-5. Where soft or loose soils are encountered during construction, appropriate measures shall be implemented to avoid, accommodate, replace, or improve soft or loose soils. Such measures may include, but are not limited to, the following:

1. Locating construction equipment and structures away from areas of soft and loose soil, if possible
2. Over-excavating soft or loose soils and replacing them with engineered backfill
3. Increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction
4. Treating soft or loose soils in place with binding or cementing agents
5. If possible, scheduling construction activities in areas where soft or loose soils are encountered for the dry season to allow safe and reliable equipment access

Mitigation Measure Geology-6. PG&E shall prepare an ECSTP as an element of the SWPPP describing BMPs to be used during construction. PG&E shall ensure all BMPs are inspected before and after each storm event, maintained on a regular basis, and replaced as necessary through the course of construction. The plan shall address construction in or near sensitive areas described in Section 3.5, Biological Resources. BMPs, where applicable, shall be designed based on specific

criteria from recognized BMP design guidance manuals. Erosion-minimizing efforts may include, but not be limited to, measures such as:

1. Avoiding excessive disturbance of steep slopes
2. Defining ingress and egress within the project area
3. Implementing a dust control program during construction
4. Restricting access to sensitive areas (e.g., using silt fencing for the protection of wetland features)
5. Using vehicle mats in wet areas
6. Revegetating disturbed areas, where applicable, following construction
7. Proper containment of stockpiled soils (including construction of berms in areas near water bodies, wetlands, or drainage channels)

Erosion control measures identified in the ECSTP shall be installed before clearing begins during the wet season and before the onset of winter rains or any anticipated storm events. Temporary measures such as silt fences or wattles, intended to minimize sediment transport from temporarily disturbed areas, shall remain in place until disturbed areas have stabilized. Such temporary measures shall be placed and monitored by a qualified inspector to ensure effectiveness and timely repair as needed.

PG&E shall keep water equipment such as water trucks and water truck filling areas well maintained and shall make repairs as soon as possible; use water minimally for dust control and to clean construction areas; sweep and vacuum to the maximum extent possible; and direct runoff to areas where it can be reused or absorbed into the ground. Water for dust control shall be applied at a rate that would not lead to significant water runoff or potentially cause a nuisance.

The ECSTP shall be submitted to the CPUC for review at least 30 days prior to the start of construction. The plan shall be revised and updated as needed, and resubmitted to the CPUC if construction activities change to the point that the existing approved ECSTP does not adequately address the project.

Hazards and Hazardous Materials

APM Hazards-1. PG&E will submit a Hazardous Substance Control and Emergency Response Plan to the CPUC for recordkeeping at least 30 days prior to project construction. The plan will identify methods and techniques to minimize the exposure of the public to potentially hazardous materials during all phases of project construction through operation. The plan will require implementing appropriate control methods and approved containment and spill-control practices (i.e., spill control plan) for construction and materials stored on-site. All hazardous materials and hazardous wastes will be handled, stored, and disposed of, in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. If it is necessary to store any chemicals on-site, they will be managed in accordance with all applicable regulations. Material Safety Data Sheets will be maintained and kept available on-site, as applicable.

APM Hazards-2. PG&E will prepare a site-specific Health and Safety Plan to ensure that potential safety hazards would be kept at a minimum. The plan will include elements that establish worker

training and emergency response procedures relevant to project activities. The plan will be submitted to the CPUC at least 30 days prior to construction for CPUC recordkeeping.

APM Hazards-3. PG&E will prepare and submit a Fire Prevention and Response Plan to the CPUC and to local fire protection authorities for notification at least 30 days prior to construction. The plan will include fire protection and prevention methods for all components of the project during construction. The plan will include procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, use of flammable materials, and smoking onsite during construction and maintenance procedures. Project personnel will be directed to park away from dry vegetation; to equip vehicles with fire extinguishing equipment; not to smoke; and to carry water, shovels, and fire extinguishers in times of high fire hazard.

APM Hazards-4. An environmental training program will be established to communicate to all field personnel any environmental concerns and appropriate work practices, including spill prevention and response measures and BMPs. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific plans, including but not limited to the project's Hazardous Substances Control and Emergency Response Plan, SWPPP, Erosion Control and Sediment Transport Plan, and Health and Safety Plan.

APM Hazards-5. A monitoring program will be implemented to ensure that the plans are followed throughout the construction period. BMPs, as identified in the project's SWPPP and Erosion Control and Sediment Transport Plan, will be implemented during the project to minimize the risk of an accidental release and to provide the necessary information for emergency response.

Hydrology and Water Quality

APM Hydrology-1. Worker environmental awareness will communicate environmental issues and appropriate work practices specific to this project. This awareness will include spill prevention and response measures and proper BMP implementation. The SWPPP training will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific water quality requirements, including applicable portions of the Health and Safety Plan and PG&E's Hazardous Substances Control and Emergency Response program.

APM Hydrology-2. PG&E will file a Notice of Intent with the State Water Resources Control Board for coverage under the General Construction Storm Water Permit and will prepare and implement a SWPPP in accordance with General Order No. 99-08-DWQ. Implementation of the SWPPP will help stabilize graded areas and waterways and reduce erosion and sedimentation. The following measures are generally drawn from that permit and PG&E's standard practices, and will be included in the SWPPP prepared for the construction of the project:

1. All BMPs will be on-site and ready for installation before the start of construction activities.
2. BMPs will be developed to prevent the acceleration of natural erosion and sedimentation rates. A monitoring program will be established to ensure that the prescribed APMs are followed throughout project construction. BMPs will include:

a. straw wattles, water bars, covers, silt fences, sensitive area access restrictions (e.g., flagging), or other sediment containment methods placed around and/or down slope of work areas prior to earth disturbing activities and before the onset of winter rains or any anticipated storm events;
b. mulching, seeding, or other suitable measures to protect exposed areas during construction activities as necessary;
c. installation of additional silt fencing prior to construction along the southern and western edges of the proposed switching station site to address unforeseen runoff from the property into the nearby intermittent drainages, seasonal wetlands, and Gabilan Creek;
d. use of brooms and shovels (as opposed to water) when possible to maintain a clean site;
e. construction of a stabilized construction entrance/exit to prevent tracking of dirt onto San Juan Grade Road;
f. establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil, gas, and engine fluids. Use of oil pans under stationary vehicles is strongly recommended; and
g. no overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands, culverts, or creeks will be positioned within secondary containment.

3. All BMPs will be inspected before and after each storm event. BMPs will be maintained on a regular basis, and replaced as necessary throughout the course of construction.
4. A Qualified SWPPP Practitioner will supervise placement of silt fencing at the proposed switching station site to limit the area of disturbance during construction at the site. The silt fence will be monitored regularly to ensure effectiveness.

PG&E will provide compensatory mitigation for permanent impacts to waters of the state and waters of the U.S. as required by the USACE, RWQCB, and CDFG as part of the permitting process for each agency.

Noise

APM Noise-1. "Quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) will be used during construction whenever possible.

APM Noise-2. PG&E will limit construction to the hours between 7 a.m. and 7 p.m., Monday through Saturday, to the extent feasible. If nighttime work is needed because of clearance restrictions on the power line, PG&E will take appropriate measures to minimize disturbance to local residents, including contacting nearby residences to inform them of the work schedule and probable inconveniences.

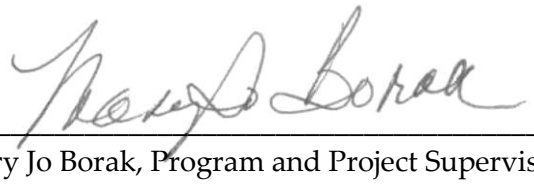
APM Noise-3. PG&E will encourage construction crews to limit unnecessary engine idling (see Air Quality measures).

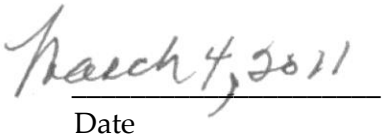
APM Noise-4. Compressors and other small stationary equipment will be shielded with portable barriers in proximity to residential areas.

FINDINGS

The Initial Study was prepared to identify the potential effects on the environment from the construction of the Crazy Horse Canyon Switching Station and to evaluate the significance of these effects. Based on the Initial Study and the Findings listed below, the CPUC has determined that the proposed project would not have a significant effect on the environment.

- With the implementation of the above APMs and mitigation measures, the proposed project would not significantly degrade the quality of the environment.
- With the implementation of the above mitigation measures, both short-term and long-term environmental effects associated with the proposed project would be less than significant.
- When potential impacts associated with implementing the proposed project are considered cumulatively, the incremental contribution of the project-related impacts are insignificant.
- Based on the Initial Study, there is no evidence that implementing the proposed project would have any adverse impacts on people.





Mary Jo Borak, Program and Project Supervisor
Energy Division
California Public Utilities Commission

Date

This page is intentionally left blank

INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

1. PROJECT TITLE

Crazy Horse Canyon Switching Station Project
Pacific Gas and Electric Company (PG&E) Application No. A10-04-031

2. LEAD AGENCY NAME AND ADDRESS

California Public Utilities Commission
Energy Division
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

3. CONTACT PERSON AND PHONE NUMBER

Andrew Barnsdale, Project Manager
Energy Division
Phone: (415) 703-3221
E-mail: andrew.barnsdale@cpuc.ca.gov

4. PROJECT LOCATION

The project is located north of the City of Salinas in Monterey County, northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road.

5. PROJECT SPONSOR'S NAME AND ADDRESS

Pacific Gas and Electric Company
77 Beale Street
San Francisco, California 94105

6. GENERAL PLAN DESIGNATION

The project site is located within the North County Planning Area as designated by the Monterey County General Plan. The entire project area is located on land classified as grazing lands.

7. ZONING

The zoning designation for the project area is permanent grazing lands.

8. DESCRIPTION OF THE PROJECT

PG&E proposes to construct and operate the Crazy Horse Canyon Switching Station Project. The Crazy Horse Canyon Switching Station would replace the Lagunitas Switch, an existing power line tower located approximately 850 feet west of the proposed switching station site. The Lagunitas Switch would be removed once the Crazy Horse Canyon Switching Station is operational, and the 115 kV lines that enter and leave the new switching station would be sectionalized and renamed. No new power lines would be constructed as part of the project.

9. SURROUNDING LAND USES AND SETTING

Agricultural grazing is the only land use in the project site vicinity. The closest residences, which consist of low-density residential housing, are located on the south side of San Juan Grade Road, east of Crazy Horse Canyon Road, approximately 0.25 mile from the proposed switching station site. Lagunita Elementary School is located on the west side of San Juan Grade Road, approximately 300 feet south of Crazy Horse Canyon Road and approximately 3,500 feet southwest of the proposed switching station site.

10. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The Applicants must obtain the permits listed in Table IS-1.

Table IS-1: Permits and Approvals That May Be Required

Permit/Approval	Agency	Jurisdiction/Purpose
Federal Agencies		
Section 7 Consultation (Biological Opinion)	U.S. Fish and Wildlife Service (USFWS)	Federally listed threatened and endangered species
Clean Water Act (CWA) Section 404 Nationwide Permit	U.S. Army Corps of Engineers (USACE)	Waters of the United States and their tributaries
State Agencies		
Permit to Construct (PTC)	California Public Utilities Commission (CPUC)	Overall project approval and California Environmental Quality Act (CEQA) review
National Pollutant Discharge Elimination System (NPDES) — General Construction Storm Water Permit	State Water Resources Control Board (SWRCB)	Permit required for all construction projects that disturb more than 1 acre
Section 401 Water Quality Certification (or waiver thereof)	California Regional Water Quality Control Board, Central Coast Region (RWQCB)	Certification that the project is consistent with state water quality standards
Section 2080.1 Consistency Determination	California Department of Fish and Game (CDFG)	Impacts to state-listed species (if required)
Section 2081(b) Incidental Take Permit for State-listed Species	CDFG	Impacts to state-listed species (if required)
Section 106 Consultation (National Historic Preservation Act)	State Historic Preservation Office (SHPO)	Consultation with lead federal agency regarding impacts to cultural resources (if required)
Section 1602 Streambed Alteration Agreement	CDFG	Impacts to streambeds as a result of project activities (if required)

Table IS-1 *(Continued)*: Permits and Approvals That May Be Required		
Permit/Approval	**Agency**	**Jurisdiction/Purpose**
Local Agencies		
Roadway Encroachment Permit	Monterey County	Ministerial permit to install station access road from public road right-of-way
Welding, Grading, and Building Permits	Monterey County	Ministerial permission to conduct welding, grading, and certain building activities

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☐ Greenhouse Gases	☐ Biological Resources	☐ Cultural Resources
☐ Geology and Soils	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use	☐ Mineral Resources	☐ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation: I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.	☒
I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.	☐

I find that the Proposed Project MAY have a "potentially significant impact" or "potentially significant impact unless mitigated" on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An EIR is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.	☐

Andrew Barnsdale, Project Manager
Energy Division
California Public Utilities Commission

3/4/2011
Date

List of Acronyms

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACSS	aluminum conductor with steel support
AkF	Arnold loamy sand
amsl	above mean sea level
APM	Applicant Proposed Measure
AvA	Arroyo Seco gravelly loam
BMPs	Best Management Practices
CALFIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDC	California Resources Agency Department of Conservation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHRIS	California Historical Resources Information Systems
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CTS	California tiger salamander
CWS	California Water Service
dB	decibels

dBA	A-weighted decibels
dbh	Diameter at breast height
DWR	Department of Water Resources
ECSTP	Erosion Control and Sediment Transport Plan
EM	Environmental Monitor
EPA	U.S. Environmental Protection Agency
ESU	evolutionarily significant unit
ETMP	Environmental Training and Monitoring Program
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
g	gravity
GhF	Gloria sandy loam
GHG	greenhouse gas
in/sec	inches per second
IS	Initial Study
L_{dn}	day/night noise level
L_{eq}	equivalent noise level
L_{max}	maximum noise emission level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCUAPCD	Monterey County Unified Air Pollution Control District
MMCRP	Mitigation Monitoring Compliance Reporting Plan
MMP	Mitigation Monitoring Plan
MND	Mitigated Negative Declaration
MPAC	Modular Protection Automation Control
mph	miles per hour
MRZ	Mineral Resource Zone
msl	mean sea level

N_2O	Nitrous Oxide
NAHC	Native American Heritage Commission
NCCAB	North Central Coast Air Basin
NCFPD	North County Fire Protection District
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NWIC	Northwest Information Center
PEA	Proponent's Environmental Assessment
PG	permanent grazing
PG&E	Pacific Gas and Electric Company
PGA	peak ground acceleration
PTC	Permit to Construct
RWQCB	Regional Water Quality Control Board
Sa	spectral acceleration
SF_6	sulfur hexafluoride
SFD	Salinas Fire Department
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SPCCP	Spill Prevention , Control, and Countermeasures Plan
SVSWA	Salinas Valley Solid Waste Authority
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
v/c	traffic volume-to-road capacity
WEAP	Worker Environmental Awareness Program

This page is intentionally left blank

1: Introduction

1.1 Proposed Project Overview

Pacific Gas and Electric Company (PG&E), a regulated California utility, filed an application with the California Public Utilities Commission (CPUC) on April 30, 2010, for a Permit to Construct (PTC) the Crazy Horse Canyon Switching Station Project (project). The proposed project includes construction of a new switching station and reconfiguration of two existing associated 115 kilovolt (kV) power lines. The existing Moss Landing-Salinas-Soledad Nos. 1 and 2 115 kV Power Lines extend to the project area from the Moss Landing Power Plant and split at the existing Lagunitas Switch, located approximately 850 feet west of the proposed switching station site. The power lines extend north from the Lagunitas Switch to serve the communities of San Juan Bautista and Hollister, and south from the Lagunitas Switch to serve the communities of Salinas and Soledad.

The existing Lagunitas Switch, a lattice steel tower where the power lines from the Moss Landing Power Plant bifurcate to head north toward Hollister and south toward Soledad, would be removed once the Crazy Horse Canyon Switching Station is operational, and the 115 kV power lines that enter and leave the new switching station would be sectionalized and renamed. The objective of the project is to improve electrical system reliability and increase operational flexibility for the electrical transmission system in the central and northern areas of Monterey County and northern San Benito County, including the communities of Hollister, San Juan Bautista, Prunedale, Soledad, and Salinas.

The project is located in Monterey County, California, north of the City of Salinas. The proposed switching station site is located approximately 0.5 mile northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road. The site is located in a valley between two hill crests within active pastureland. The project region is shown on Figure 1.1-1.

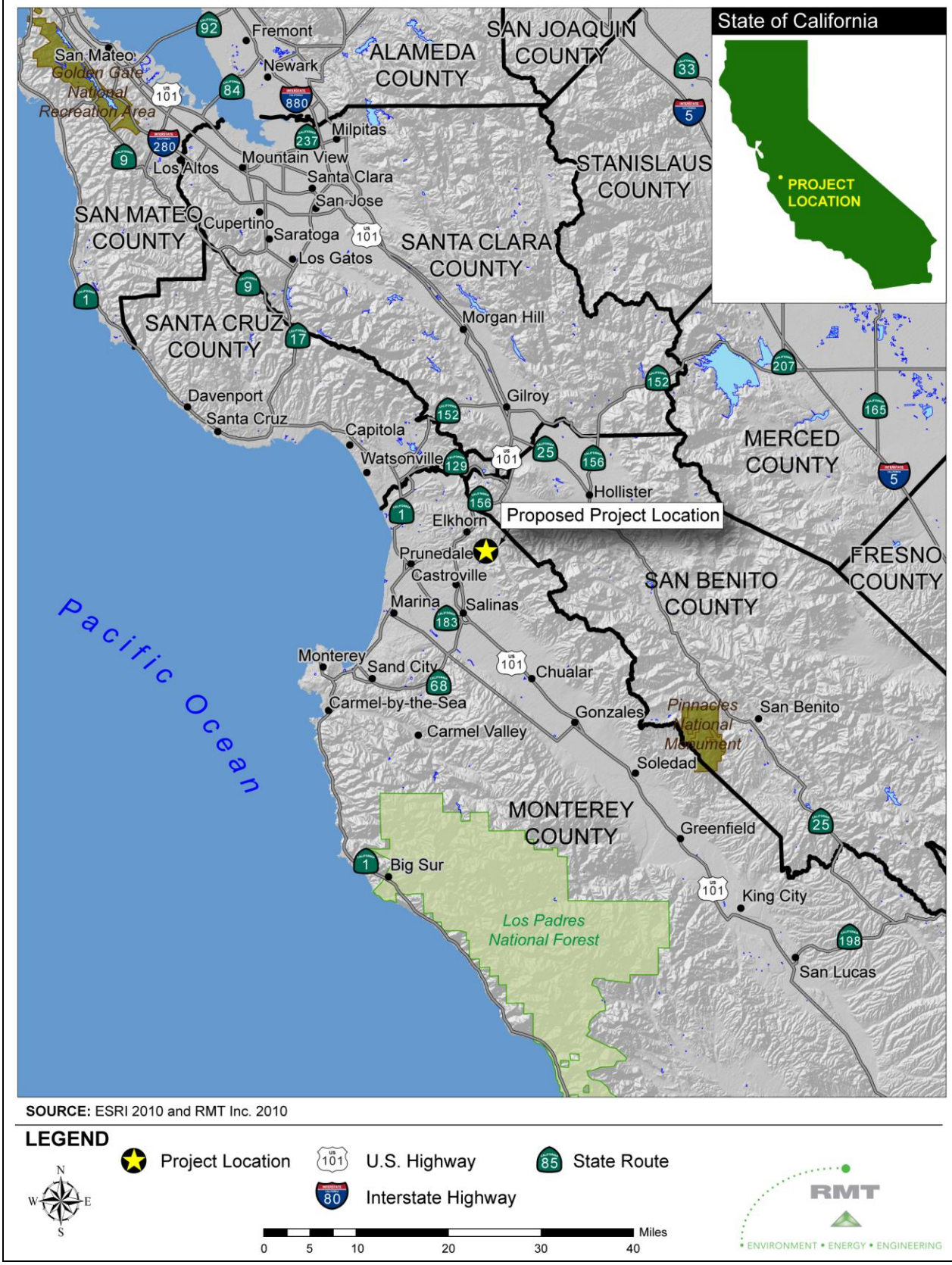
1.2 Environmental Analysis

1.2.1 CEQA PROCESS

This Initial Study (IS) has been prepared pursuant to the California Environmental Quality Act (CEQA), the amended State CEQA Guidelines (14 California Code of Regulations 15000 et seq.), and the CPUC CEQA rules (Rule 2.4). The purpose of the IS is to inform the decision-makers, the responsible agencies, and the public of the proposed project, the existing environment that would be affected by the project, the environmental effects that would occur if the project is approved, and proposed mitigation measures that would avoid or reduce environmental effects.

A Mitigated Negative Declaration (MND) has been prepared based on the assessment of potential environmental impacts identified in the IS. All potentially significant impacts associated with the project can be mitigated to a level below significance; therefore, an MND can be adopted by the CPUC in accordance with Section 21080 of the CEQA Public Resources Code.

Figure 1.1-1: Proposed Project Location



1.2.2 CEQA LEAD AGENCY

The CPUC is the lead agency for review of the project under CEQA because the CPUC is the agency that must make a decision whether to adopt the MND and to approve or deny the PTC.

1.2.3 INITIAL STUDY

The IS presents an analysis of potential effects of the proposed project on the environment. The IS is based on information from PG&E's Proponent's Environmental Assessment (PEA) and associated submittals, site visits, CPUC data requests, and additional research.

Switching station construction and power line reconfiguration activities could have direct and indirect impacts on the environment. The following environmental parameters have been addressed based on the potential effects of the proposed project and potential growth-inducing or cumulative effects of the project in combination with other projects:

- Aesthetics
- Agricultural Resources
- Air Quality
- Greenhouse Gases
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Traffic and Transportation
- Utilities and Service Systems
- Mandatory Findings of Significance

The IS has been organized into the following sections:

- Chapter 1: Introduction. Provides an introduction and overview describing the proposed project and the CEQA process and identifies key areas of environmental concern.
- Chapter 2: Project Description. Presents the project objectives and provides an in-depth description of the proposed project, including construction details and methods.
- Chapter 3: Environmental Setting and Environmental Impacts. Includes a description of the existing conditions and analysis of the proposed project's potential environmental impacts, and identifies mitigation measures to reduce potentially significant impacts to less than significant levels.
- Chapter 4: Mitigation Monitoring Plan. Includes applicant proposed measures (APMs) and mitigation measures that PG&E must implement as part of the project, actions required to implement these measures, monitoring requirements, and timing of implementation for each measure.
- Chapter 5: References. Lists the sources of information used to prepare the IS.
- Chapter 6: Report Preparation. Lists the preparers of the IS and identifies public agencies that were consulted during preparation.

This page is intentionally left blank

2: Project Description

2.1 Project Overview

PG&E proposes to construct and operate the Crazy Horse Canyon Switching Station Project. The project is located north of the City of Salinas in Monterey County (the County), northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road, as shown in Figure 2.1-1.

The Crazy Horse Canyon Switching Station would replace the Lagunitas Switch, an existing power line tower located approximately 850 feet west of the proposed switching station site. The Lagunitas Switch and existing power line configuration are shown in Figure 2.1-1. The Lagunitas Switch would be removed once the Crazy Horse Canyon Switching Station is operational, and the 115 kV lines that enter and leave the new switching station (as identified and shown in Figure 2.1-2) would be sectionalized and renamed. No new power lines would be constructed as part of this project.

Monterey County participated in selection of the project site and has expressed support for the project (Appendix A). Section 2.4, Project Description, provides a complete description of the project and the facilities proposed to be constructed.

2.2 Project Objectives and Project Need

2.2.1 PROJECT OBJECTIVES

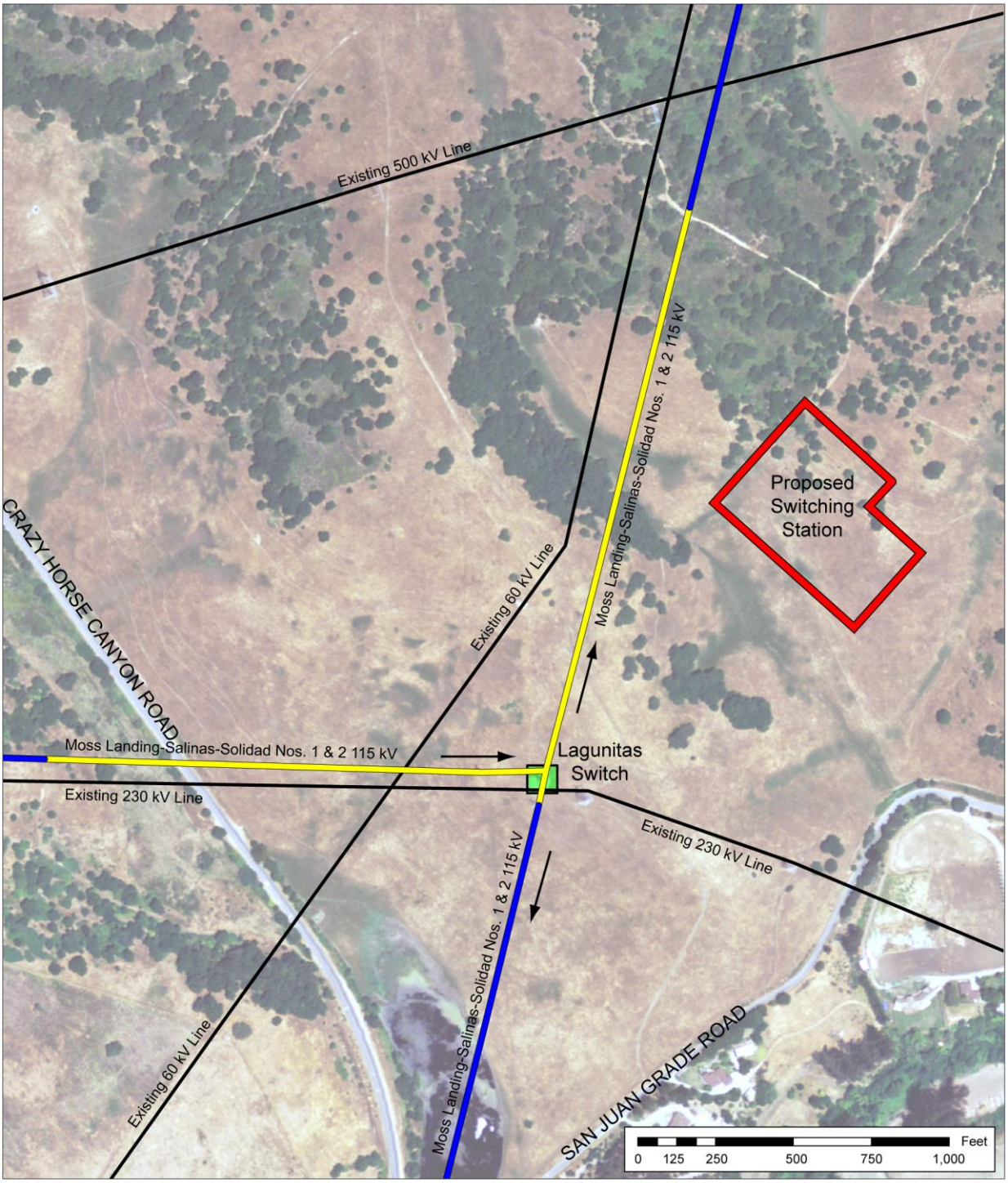
The objectives of the project are as follows:

- **Improve Transmission Reliability:** The new switching station would allow PG&E to quickly detect power outages on the existing 115 kV lines, and to quickly and efficiently adjust the system's operating parameters to restore service in a timely manner.
- **Increase Operational Flexibility:** The new switching station would allow PG&E to re-route power on the existing 115 kV lines to serve existing customers while simultaneously performing routine or emergency maintenance on lines connected to the station.
- **Minimize Environmental Impacts:** The new switching station, which would be located in proximity to the confluence of the existing power lines, would minimize the number of existing towers to be relocated and the need for additional towers, thus minimizing ground disturbance and associated environmental impacts.

2.2.2 PROJECT NEED

The existing double-circuit Moss Landing-Salinas-Soledad 115 kV Power Lines (Figure 2.2-1) span more than 55 miles and are the primary sources of power for the communities of Hollister, San Juan Bautista, Prunedale, Soledad, and portions of the City of Salinas. The length of these lines and the underlying terrain cause reliability issues. The proposed Crazy Horse Canyon Switching Station would improve electrical service reliability and increase operational flexibility for the central and northern areas of Monterey County and northern San Benito County, including the communities of Hollister, San Juan Bautista, Prunedale, Soledad, and Salinas and surrounding areas.

Figure 2.1-1: Aerial Map of the Existing Lagunitas Switch

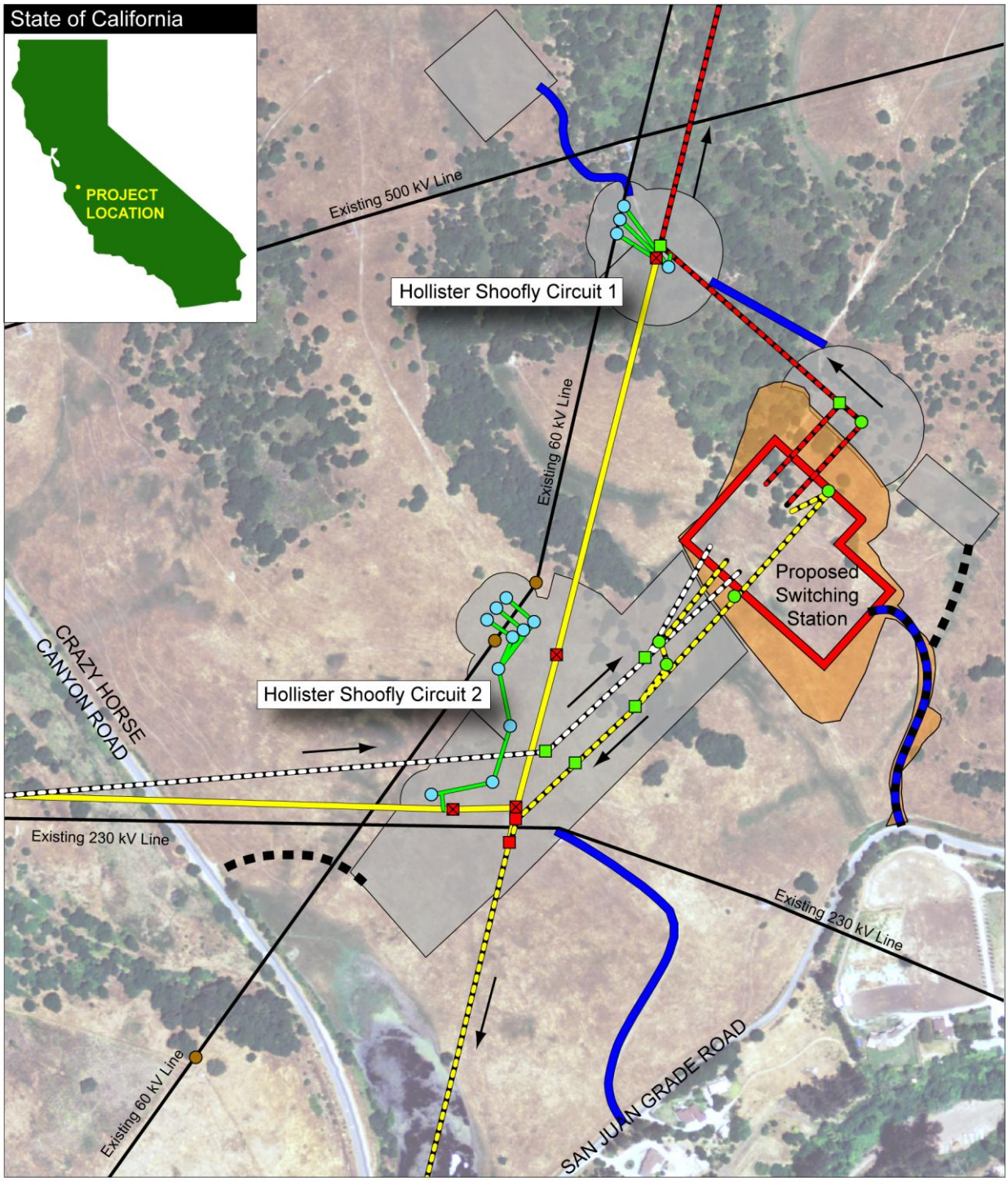


SOURCE: PG&E 2010, ESRI 2010, and RMT Inc. 2010

LEGEND

- Proposed Switching Station
- Existing Lagunitas Switching Station
- Existing Moss Landing-Salinas -Solidad 115 kV Line
- Existing Power Line to be Removed
- Existing Transmission or Power Line
- Direction of Flow

Figure 2.1-2: Aerial Map of Proposed Switching Station



SOURCE: PG&E 2010, ESRI 2010, and RMT Inc. 2010

*Please Refer to Legend Information on the Following Page

N W E S

0 125 250 500 750 1,000 Feet

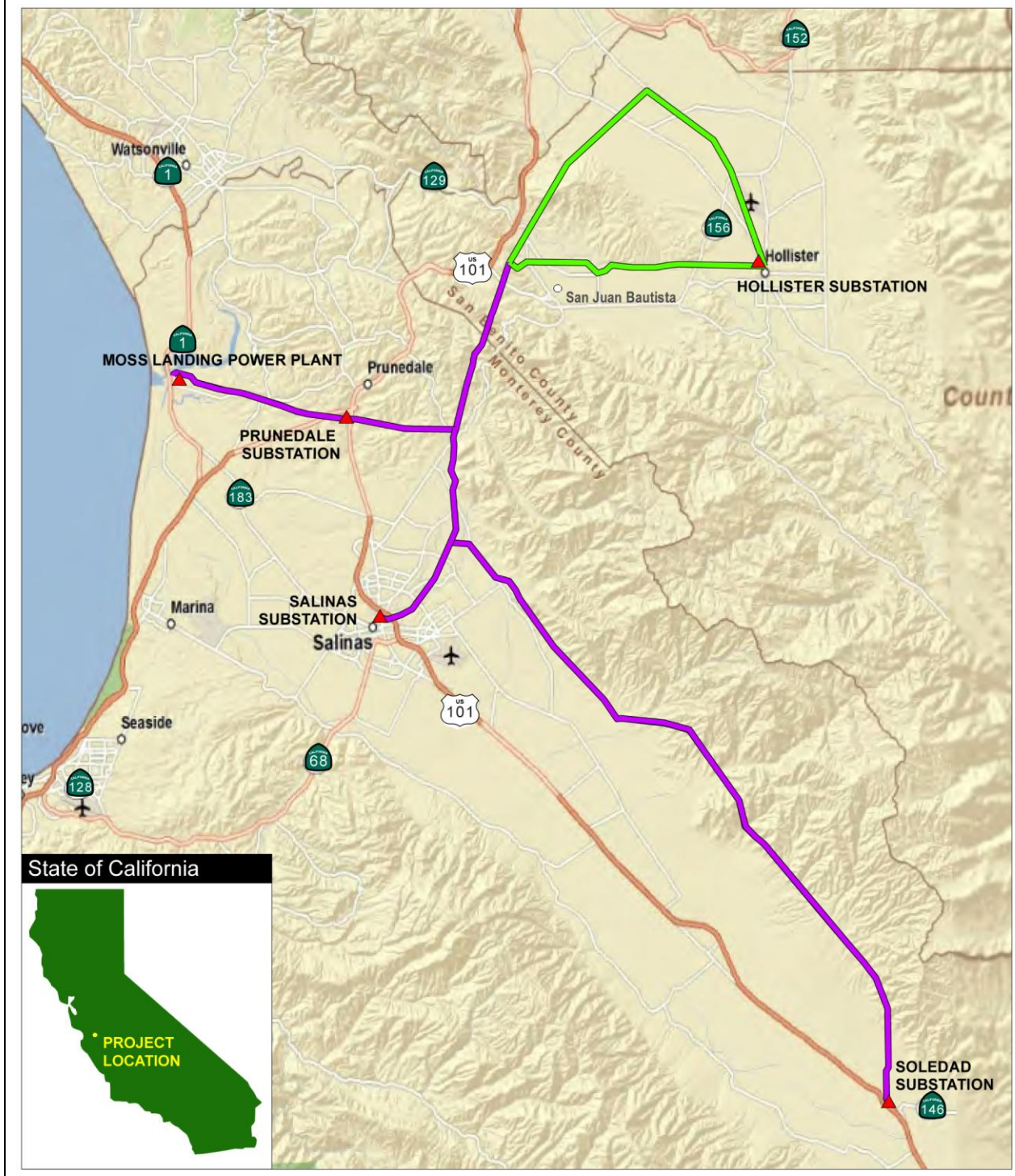
RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 2.1-2 Legend: Aerial Map of Proposed Switching Station

SOURCE: PG&E 2010, ESRI 2010, and RMT Inc. 2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 2.2-1: Existing 115 kV Power Line Transmission System



2.3 Project Background

2.3.1 PROJECT LOCATION AND REGIONAL CONTEXT

The project is located approximately 0.5 mile northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road, within active pastureland, in a valley between two hill crests. The existing PG&E 115 kV power lines (all currently part of the Moss Landing-Salinas-Soledad Nos. 1 and 2 115 kV Power Lines) currently converge at the Lagunitas Switch on a ridge top west of the proposed switching station site. Crazy Horse Canyon Road and San Juan Grade Road are located on opposite sides of the ridge.

Agriculture is the dominant land use in the project area. A school is located on the west side of San Juan Grade Road, approximately 300 feet south of the intersection of Crazy Horse Canyon Road and San Juan Grade Road, and approximately 2,900 feet southwest of the proposed switching station. The closest residences are on the south side of San Juan Grade Road, approximately 1,200 feet south of the proposed switching station site. The project location is shown on Figures 2.1-1 and 2.1-2.

2.3.2 EXISTING REGIONAL ELECTRICAL SYSTEM

A switching station acts as a "network station" within a larger electrical transmission system. A network station in a transmission system does not increase capacity, but connects several different transmission lines into a common bus, which enables more "source" lines to supply local distribution substations. A network station has an automated control system that allows PG&E to seamlessly switch load from one line to another in the event of scheduled maintenance or an unanticipated outage on one of the lines. A network station also "sectionalizes" long power lines into shorter sections. By sectionalizing lines, impacts from outages are experienced by fewer customers, and some outages will not impact any customers. Construction of the proposed switching station would provide PG&E with a more reliable and robust transmission system configuration in the region. It would also provide system operators more speed and flexibility by simplifying switching through automation. This capability does not currently exist along the power lines that serve this area of Monterey and San Benito Counties.

2.3.3 EXISTING REGIONAL TRANSMISSION SYSTEM

PG&E's existing regional transmission system consists of 500 kV, 230 kV, 115 kV, and 60 kV lines. The Moss Landing Power Plant is the primary electrical generation source for the region. The location of the proposed switching station is near the Lagunitas Switch, where the Moss Landing-Salinas-Soledad Nos. 1 and 2 115 kV Power Lines connect from Moss Landing Power Plant and split north and south as two double-circuit 115 kV lines. It is also near the crossing of two 230 kV transmission lines and one 60 kV power line. Although the immediate need for the proposed switching station is to provide improved reliability for customers served by the 115 kV lines, the proposed location would provide future opportunities for integration of the adjacent 60 kV and 230 kV systems into the 115 kV system.

In June 2009, the California Independent System Operator (CAISO) approved the PG&E Watsonville Voltage Conversion Project, which will convert the adjacent 60 kV power line to

115 kV and route it through Crazy Horse Canyon Switching Station; construction is anticipated for 2013-2014, depending on project planning, permitting, and approval of the Crazy Horse Canyon Switching Station project.

2.4 Project Description

2.4.1 PROJECT COMPONENTS

The two major components of the proposed Crazy Horse Canyon Switching Station project are construction and installation of the switching station and associated facilities, and rearrangement of the existing electrical power circuits. Table 2.4-1 summarizes the project components.

Table 2.4-1: Summary of Project Components

Switching Station and Associated Facilities	▪ Four 115 kV dead-end structures ▪ Four 115 kV double dead-end structures ▪ Twenty capacitor couple voltage transformers and structures ▪ Three station service voltage transformers ▪ Twenty-four 115 kV disconnect switches ▪ Sixteen 115 kV bus structures ▪ Nine 115 kV circuit breakers ▪ One Modular Protection Automation Control (MPAC) building (to house the protection and control systems) ▪ One battery building (to provide back-up station power) ▪ One permanent paved access road from San Juan Grade Road to the switching station (approximately 750 feet long) ▪ Perimeter fencing ▪ Drainage improvements ▪ An auxiliary alternating current and direct current power system, including 1,400 feet of 12 kV distribution line on new wooden poles ▪ Telemetering equipment ▪ An electrical grounding system ▪ Underground conduits or a trench system ▪ Security lighting
Power Line Reconfiguration	▪ Removal of four existing lattice steel towers ▪ Installation of six new lattice steel towers ▪ Installation of five new tubular steel poles

Switching Station and Associated Facilities

Because of the slope of the proposed site, construction of the switching station would require establishing a 5.2-acre flat pad to accommodate both the switching station facilities and the temporary construction work area. PG&E would install the electrical equipment listed in Table 2.4-1 at the station. Table 2.4-2 includes a list of the primary switching station features that would be built at the site.

The unmanned switching station would have automated features and remote control capabilities. A typical switching station layout is provided on Figure 2.4-1 and a corresponding profile of a typical switching station is provided on Figure 2.4-2. The layout of the proposed Crazy Horse Canyon Switching Station has not yet been developed, but is assumed to be similar to the typical layout shown on these figures.

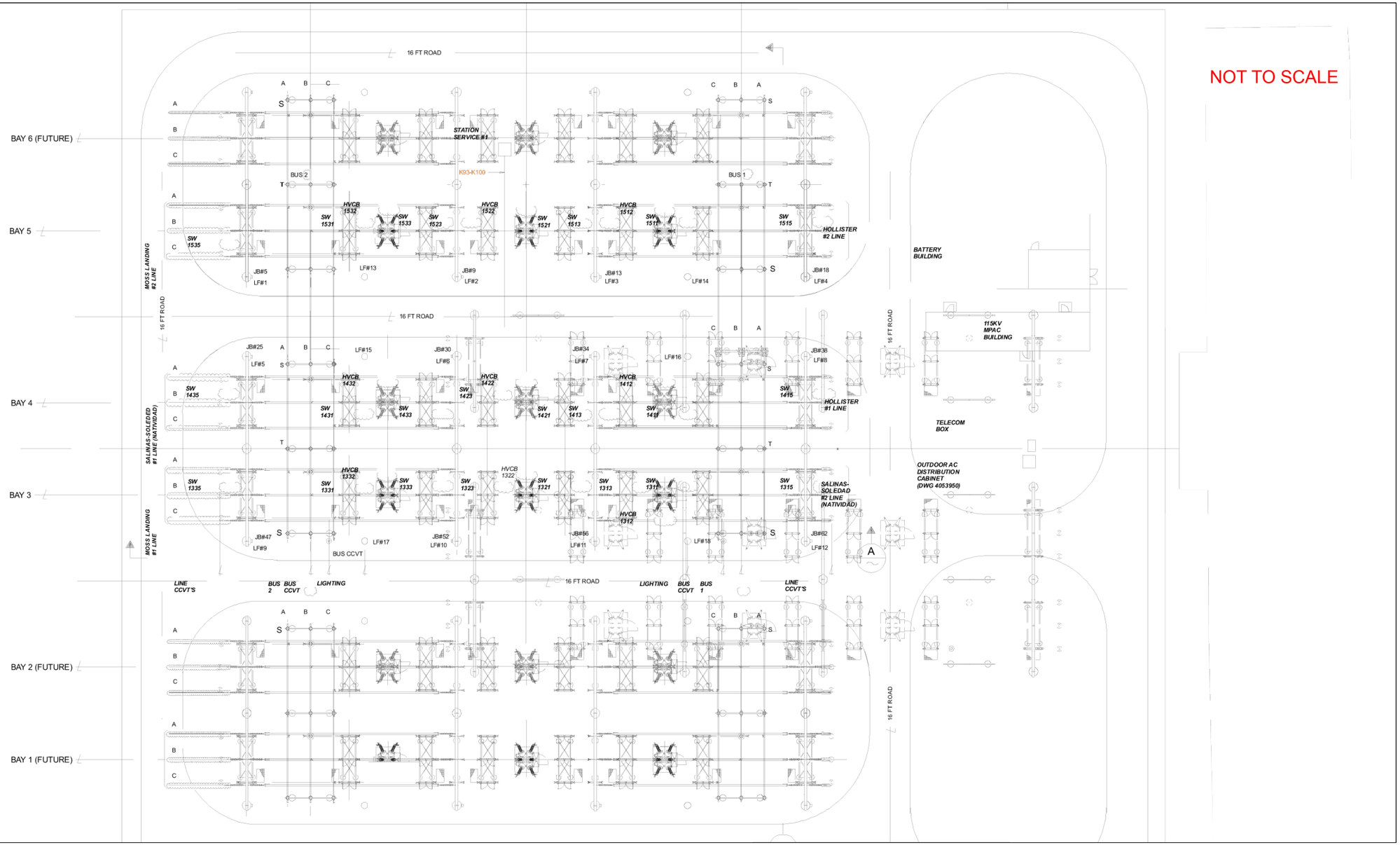
The major project components of the switching station and their dimensions are summarized in Table 2.4-3. The tallest switching station components would be the dead-end structures, which would be approximately 36 feet in height, with the remaining components 22 feet in height or lower. The switching station equipment and structures would be neutral gray in color with a non-reflective finish.

An 8-foot-tall fence consisting of 7-foot-tall chain link fence topped with 1 foot of barbwire (six rows) would enclose the station for security purposes.

Table 2.4-2: Switching Station Features

Project Feature	Characteristics	Other Elements
Switching Station Pad	Gradient: generally level with low gradient slopes for drainage purposes Acres: 5.2 Elevation: Approx. 340'	▪ Enclosed by a 7-foot-tall chain link fence topped with six rows of barbed wire.
Fill slopes	Gradient: 2:1 (horizontal to vertical) Acres: 2.1 Low Elevation: Approx. 269' High Elevation: Approx. 340'	▪ Perimeter access route ▪ Benched with drainage features
Cut Slopes	Gradient: 2:1 (horizontal to vertical) Acres: 3.3 Low Elevation: Approx. 340' High Elevation: Approx. 425'	▪ Perimeter access route ▪ Benched with drainage features
Paved Access Road	Width: 16 feet Length: Approx. 750 feet Acres: 0.9	▪ Entry gate at San Juan Grade Road ▪ Benched with drainage features

Figure 2.4-1: Typical Switching Station Layout



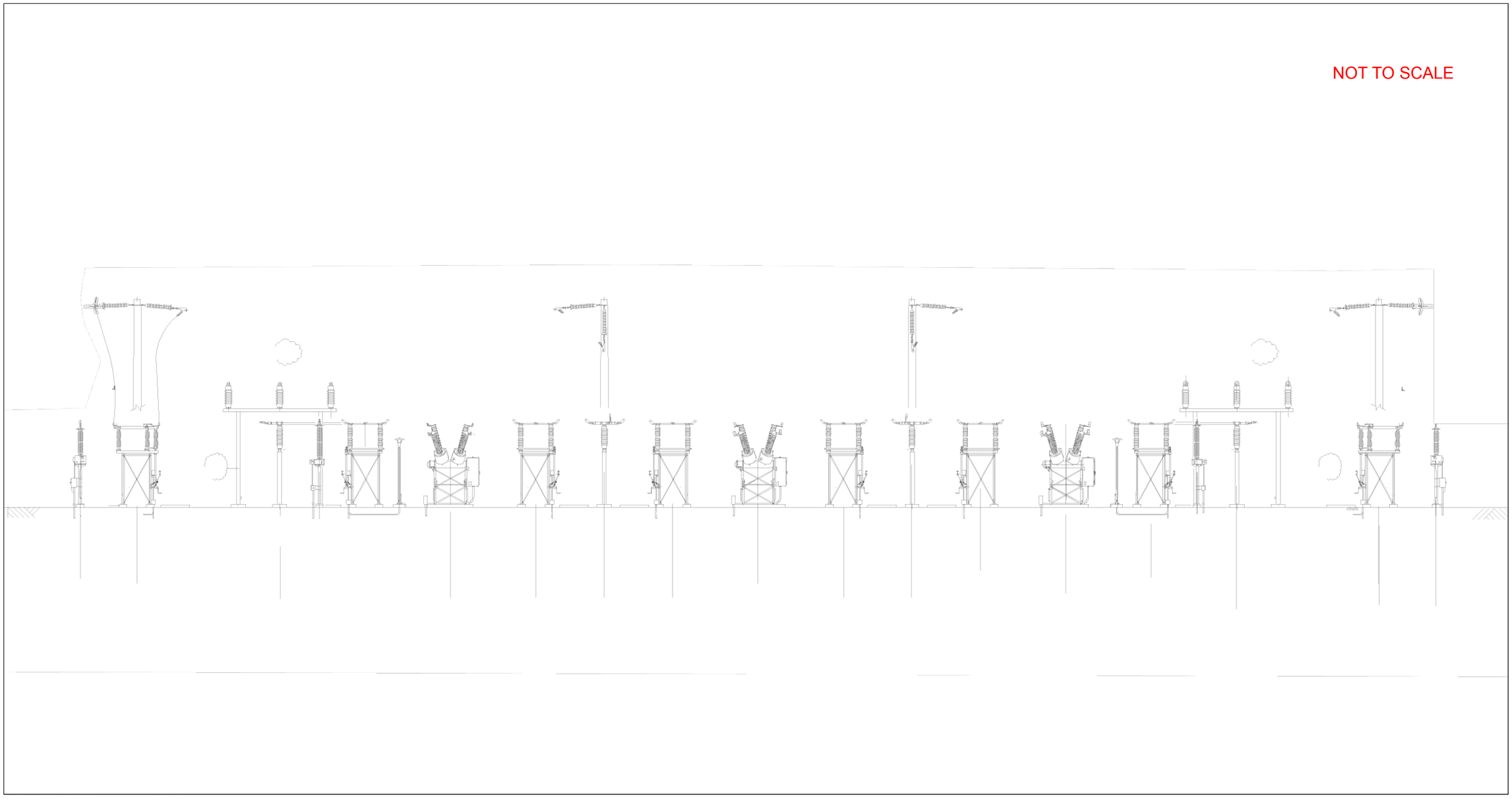
SOURCE: PG&E 2010 and RMT Inc. 2010

Preliminary and subject to change based on California Public Utilities Commission requirements, final engineering, and other factors

Pacific Gas and Electric Company™

RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 2.4-2: Typical Switching Station Profile



SOURCE: PG&E 2010 and RMT Inc. 2010

Preliminary and subject to change based on California Public Utilities Commission requirements, final engineering, and other factors

Pacific Gas and Electric Company™

RMT • ENVIRONMENT • ENERGY • ENGINEERING

Table 2.4-3: Approximate Dimensions of Major Switching Station Components

Project Feature (number)	Height (feet)	Length (feet)	Width (feet)	Characteristics
Dead-end Structures (4)	36	39	1	Material: steel Color: non-reflective neutral grey finish
Double dead-end Structures (4)	36	78	1	Material: steel Color: non-reflective neutral grey finish
Capacitor Couple Voltage Transformers and Structures (20)	10	1	1	Material: metallic material Color: non-reflective neutral gray finish
115 kV Disconnect Switches (24)	15	20	6	Material: metallic material Color: non-reflective neutral gray finish
115 kV Bus Structures (16)	22	34	20	Material: metallic material Color: non-reflective neutral gray finish
Circuit Breakers (9)	15	12	10	Material: metallic material Color: non-reflective neutral gray finish
MPAC building (1)	11	65	15	Building Material: steel sheeting Building Color: non-reflective light yellow Roof Material: steel sheeting Roof Color: white
Battery building (1)	11	28	15	Building Material: steel sheeting Building Color: non-reflective light yellow Roof Material: steel sheeting Roof Color: white

The project also would include the construction of drainage ditches arranged in a two-tiered drainage system outside the perimeters of both the switching station and the grade and fill area. Three overflow outlets (spillways) lined with geofabric and angular rock would carry runoff from the switching station to the ditch around the grade and fill area. From there, runoff would flow overland towards the seasonal wetland downslope of the switching station. Drainage from the area uphill of the site would flow into the ditch surrounding the grade and fill area and would be carried south along the east side of the access road, where it would drain into a 10-foot by 10-foot by 1-foot area of riprap prior to flowing through a 30-inch-diameter culvert installed under the access road. The culvert would direct flow overland towards the seasonal wetland downslope of the switching station. Intermittent drainage from the seasonal wetland would flow to Gabilan Creek through an existing culvert under San Juan Grade Road.

Construction and station operation power would be provided by a new 12 kV distribution line installed on new wooden poles, extending to the north side of the station from an existing distribution line on San Juan Grade Road. This new distribution line would be approximately 1,400 feet long, and would be installed along the east side of the permanent access road entering the switching station on the northeast side as shown on Figure 2.1-2.

A dedicated telephone line would be used for communication with PG&E's control system in lieu of microwave or radio antennae. The phone line would be strung along the new 12 kV wooden pole electrical distribution line onto the site from an existing AT&T line, and would continue underground from the last pole outside the station fence to the control building. Within the station, all telecommunication equipment would be located within conduits, switchgear enclosures, and pull boxes. Additional communication capabilities would be supported by a tie-in to a fiber optic system currently installed on the existing power delivery infrastructure.

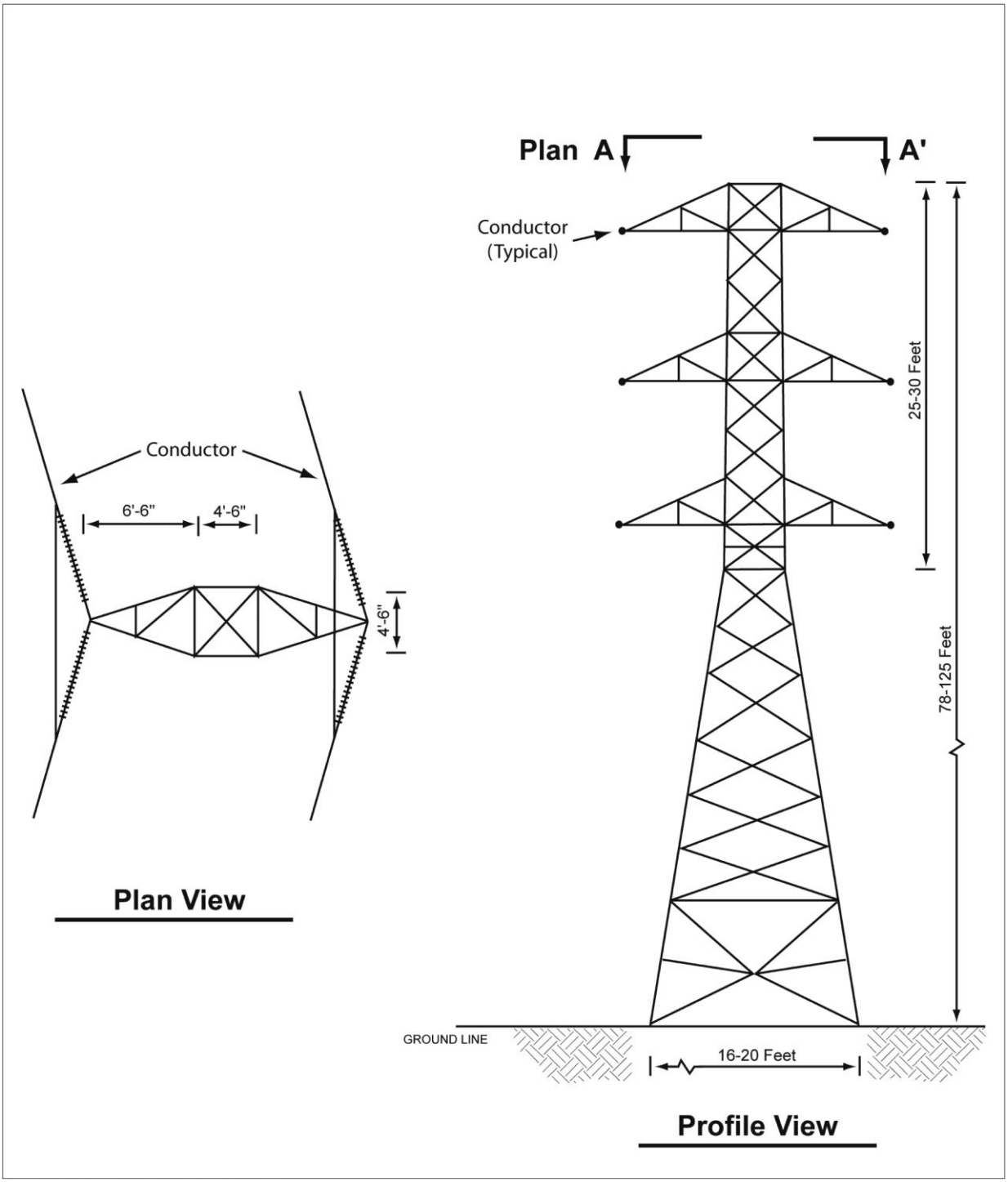
Security lighting for the station would consist of non-glare sodium vapor lamps. Lighting fixtures would be located and designed to avoid casting light or glare toward off-site locations, and would include the use of non-glare light bulbs. The light standards would be approximately 10-foot-high, hot-dipped galvanized steel posts erected on bus structures.

Power Line Reconfiguration

Four existing lattice steel towers would be removed and six new lattice steel towers and five new tubular steel poles would be installed to reconfigure the power lines through the Crazy Horse Canyon Switching Station. The four existing lattice steel towers to be removed are between 42 and 91.5 feet in height. The new lattice steel towers would be approximately 78 to 125 feet tall, and the new tubular steel poles would be approximately 60 to 95 feet tall. A typical 115 kV double dead-end tower structure and a typical tubular steel pole structure are shown on Figures 2.4-3 and 2.4-4, respectively.

The existing Lagunitas Switch tower would be removed during reconfiguration and the double-circuit power lines would extend approximately 850 feet east from the ridge top to the proposed switching station site. No new power lines would be constructed as part of the project. The existing power lines would be extended to enter and exit the new switching station. The lines would be sectionalized at the switching station so that they operate as six independent circuits. Two of the six circuits (Moss Landing-Crazy Horse Canyon Nos. 1 and 2 115 kV Power Lines) would enter the switching station from Moss Landing Power Plant. Two circuits (Crazy Horse Canyon-Hollister Nos. 1 and 2 115 kV Power Lines) would continue north of the switching station, connecting with the existing tower approximately 1,400 feet north of the proposed switching station site. The final two circuits (Crazy Horse Canyon-Salinas-Soledad Nos. 1 and 2 115 kV Power Lines) would continue to the south, connecting with the existing tower near the ridge top, approximately 1,500 feet from the switching station. There are no other lines or utilities collocated on the towers being replaced.

Figure 2.4-3: Typical 115 kV Double Dead-End Lattice Steel Tower



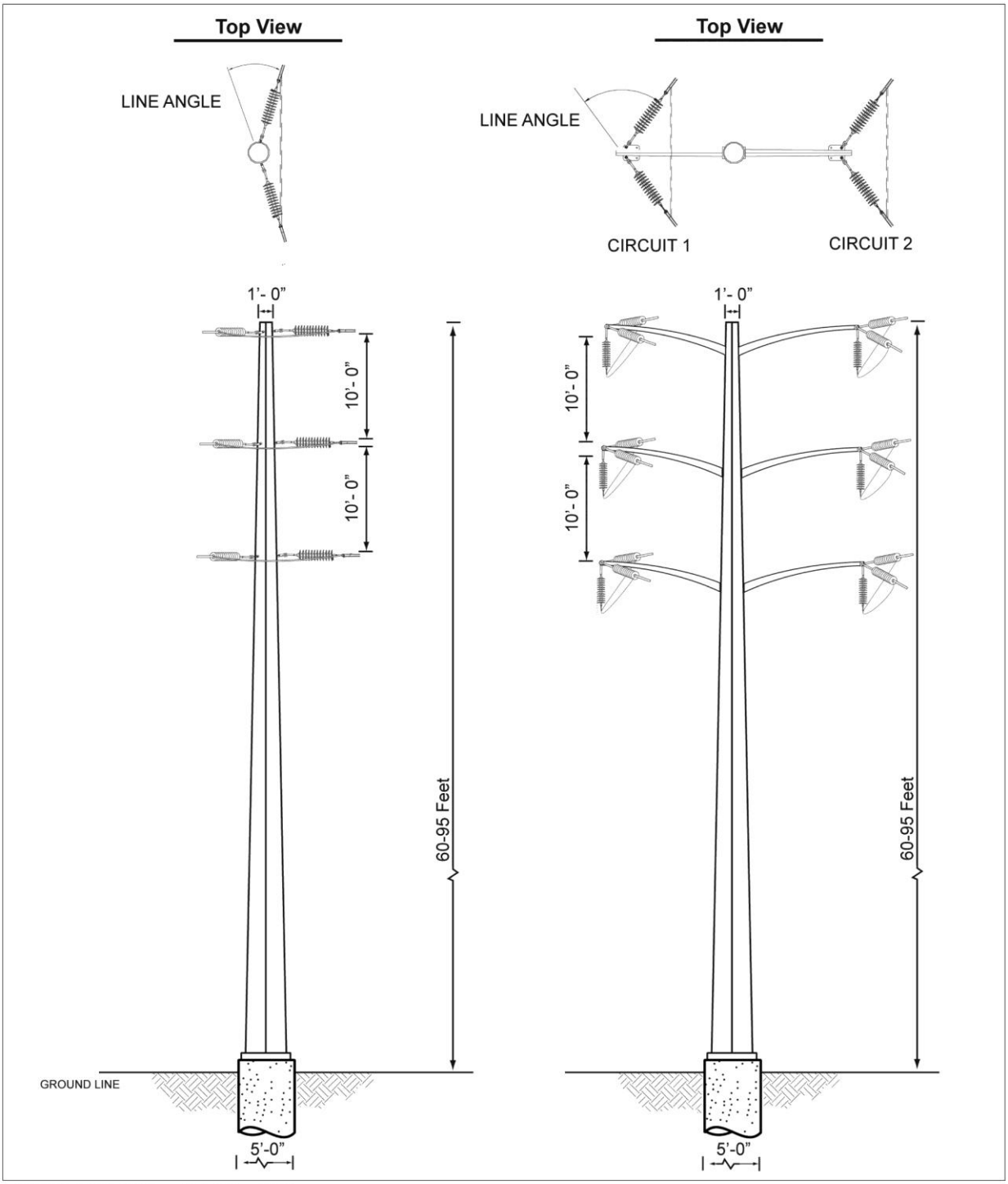
SOURCE: PG&E 2010 and RMT Inc. 2010

Preliminary and subject to change based on California Public Utilities Commission requirements, final engineering, and other factors

Pacific Gas and Electric Company™

RMT • ENVIRONMENT • ENERGY • ENGINEERING

Figure 2.4-4: Typical Tubular Steel Pole Structure



SOURCE: PG&E 2010 and RMT Inc. 2010

Preliminary and subject to change based on California Public Utilities Commission requirements, final engineering, and other factors

Pacific Gas and Electric Company™

RMT

ENVIRONMENT • ENERGY • ENGINEERING

2.4.2 CONSTRUCTION

General Construction Sequence and Methods

Construction activities generally would occur in the following order:

- Erosion and Sediment Control and Pollution Prevention (on-going throughout construction and operation)
- Access Road Construction
  - Construction of the temporary access road to access the switching station pad area
  - Construction of the permanent access road
- Vegetation Clearing
- Switching Station Construction
  - Rough grading to establish pad for switching station
  - Fine grading to establish site drainage; placement of surface gravel
  - Paving of permanent access road with asphalt
  - Installation of 12 kV distribution service pole line
  - Construction of perimeter security fence, buswork structures, dead-end switch structures, circuit breakers, and building foundations
  - Construction of switching station buildings and installation of system control and data acquisition equipment
- Power Line Reconfiguration/Interconnection Construction
  - Construction of temporary access roads to pull site locations
  - Setting of temporary shoo-fly poles and transferring of conductors
  - Installation of new lattice steel towers, tubular steel poles, and conductor, and removal of existing towers, conductor, and shoo-fly poles
  - High-voltage connection and testing
- Site Cleanup and Landscaping

Erosion and Sediment Control and Pollution Prevention

PG&E would prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to prevent pollution of nearby drainages and wetlands with sediment or other project construction-related polluted runoff. The plan would identify Best Management Practices (BMPs) that would include the placement of erosion and sediment controls such as fiber rolls, silt fences, mulch, and seed, as appropriate, prior to and during project construction. PG&E also would prepare and implement a plan to safely store and use any hazardous materials or other potential chemical pollutants during project construction. BMPs would be implemented prior to pre-construction vegetation clearing. Further details on erosion and sediment control and pollution prevention can be found in Section 3.8, Hazards and Hazardous Materials, and Section 3.9, Hydrology and Water Quality.

Access Road Construction

A 12-foot-wide temporary access road would be constructed to provide access to the switching station site for vegetation clearing and rough grading activities. Grading for the temporary access road would include removal of existing vegetation within the grading limits (a width of up to 100 feet). Excess soil generated from grading of the station pad would be used to construct the permanent access road within the 100-foot-wide graded area along roughly the same alignment as the temporary access road. The permanent access road would be approximately 750 feet long by 16 feet wide and would be engineered and constructed to withstand use by heavy equipment for construction and maintenance activities. The permanent access road (to be paved with asphalt after major construction is completed) would include two 2-foot-wide shoulders and drainage ditches. All cuts and fills would be at a maximum of a 2:1 slope. Surveyors would stake the alignment and establish grading limits for the permanent access road at the same time that they set grading stakes for the switching station pad.

Access to the Lagunitas Switch and the work spaces around the existing and proposed structures southwest of the switching station would be through an existing gate and twin-track road off of San Juan Grade Road. The gate is located approximately 1,300 feet southwest of the proposed permanent access road, and the twin-track road is approximately 1,000 feet in length. Equipment would be mobilized over the existing surface and no grading would occur.

Access would also be required for two pull sites at the project site. The stringing of new conductor requires the use of pull sites, which are locations where vehicles and equipment are staged to assist in the stringing of new conductor for power lines. The proposed pull sites are not near existing access roads and therefore would be accessed overland along a single route to each site. The overland routes would be marked prior to commencement of construction activities. Equipment would be mobilized over ground surface and no road would be constructed (i.e., no grading would be performed along the access route). The routes would be restored to pre-project conditions after the work conducted at the pull sites is completed.

Vegetation Clearing

Vegetation would be cleared to facilitate access to the project site, construction of the switching station, and reconfiguration of the associated power lines. Vegetation clearing would require both the removal of grasses, shrubs, and other organic material, as well as the trimming and removal of larger trees. Construction of temporary access roads are anticipated to require minimal vegetation clearing. The clearing would be primarily completed using a mower or similar equipment that would allow for subsurface roots and plant materials to remain in place. Some tree trimming would be required along proposed access road locations. As many as 30 mature oak trees would need to be removed from the project site; however, other oak trees would only need to be trimmed.

Four oak trees on San Juan Grade Road in the County's right-of-way would be trimmed as requested by the Monterey County encroachment inspector. All vegetative materials would be removed from the site. Topsoil would be stripped, stockpiled, and used later for site restoration. Additional information on vegetation clearing is found in Section 3.5, Biological Resources.

Switching Station Construction

Site preparation for the switching station pad would begin once the temporary access road is rough-graded to the site, and would begin with clearing of vegetation, including grasses, shrubs, trees, and other organic material, as discussed above. Rough grading would then commence, cutting into the hillside and placing material on the lower side of the cut, approximately balancing the cut and fill. Although the engineering design would attempt to balance the cut and fill, some existing soil may not be suitable for use at the site. Approximately 305,000 cubic yards of cut and approximately 302,000 cubic yards of fill would be required to create a level station site. Cut materials would be reused as fill following suitability testing, to the extent possible. Representative samples of excess soil would be collected, analyzed, and profiled for disposal in accordance with all federal, state, and local regulations. Engineered fill material would be imported as needed to accomplish compaction and final grading.

Once the rough grade is achieved and compacted, finish grading and shaping would be performed to provide the designed site drainage, and gravel would be spread on the pad surface to create a stable work area for subsequent construction activities. The surface of the switching station, apart from asphalt roads, would be covered with gravel. The perimeters of both the switching station and the grade and fill area would be surrounded by drainage ditches arranged in a two-tiered drainage system. Three overflow outlets (spillways) lined with geofabric and angular rock would carry drainage from the switching station to the ditch around the grade and fill area. From there, drainage would flow overland towards the seasonal wetland located approximately 300 feet south of the switching station. Drainage from the area uphill of the site would flow into the ditch surrounding the grade and fill area and be carried south along the east side of the asphalt access road, where it would drain into a 10-foot by 10-foot by 1-foot area of rip rap prior to flowing through a proposed 30-inch concrete pipe installed under San Juan Grade Road. The concrete pipe would direct flow overland towards the seasonal wetland below the station. Intermittent drainage from the seasonal wetland currently flows through a culvert under San Juan Grade Road to Gabilan Creek.

Grading would be followed by installation of an 8-foot-tall security fence; excavation and installation of a subsurface grounding grid and conduit chases; installation of paved interior roads; and excavation, forming, and pouring of concrete footings and foundations for all aboveground structures. Aboveground steel structures, circuit breakers, switchgear, buses, dead ends, and other electrical equipment, including associated control system hardware, would be installed after the concrete has cured. Equipment to be placed on slabs or footings would either be bolted or welded securely to meet appropriate seismic requirements. All metallic structures within the switching station would be connected to the station grounding grid.

A final dressing of approximately 3,200 cubic yards of aggregate would be spread on all unpaved areas of the switching station to provide an all-weather stable surface for operation and maintenance activities while limiting the amount of impervious surface created, which would minimize stormwater runoff.

Power Line Reconfiguration/Interconnection Construction

The foundation sites and work areas for the new steel lattice towers and tubular steel poles would be surveyed and staked. Power line reconfiguration work would then occur in three phases, including installation of new towers and tubular steel poles, removal of existing towers and conductor, and installation of new conductor. All new towers and poles would be designed with raptor deterrence features and would meet applicable standards from the California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS) regarding raptor safety.

Installation of New Towers and Poles. Installation of six new lattice steel towers would require boring holes for the four leg foundations for each tower. Each hole would be approximately 2 feet in diameter and approximately 7.5 to 12.5 feet deep, depending on soil conditions. Workers would place reinforcing steel in each hole along with stub-angle steel that would become part of the tower leg itself. Concrete forms that extend 2 or 3 feet above ground level would be placed over each hole and concrete would be poured around the reinforcing steel and stub angles up to the top of the form.

The six new double-circuit lattice steel towers would be assembled at the tower sites. The steel would be delivered to the site and assembled into "panels," which would be placed on the foundations and latticed together with strips of steel. Once the first level is complete, another pair of panels would be assembled and bolted on top. These panels would then be latticed together and the process would be repeated until the tower is complete. Once assembled completely, crews would install and tighten all bolts, attach insulators to the arm extensions, and prepare the towers and insulators for the conductor-stringing operation. A crane operating pad measuring approximately 60 feet by 60 feet would be established at each tower location, using minimal grading, to provide a stable surface for a crane and its outriggers. Tower heights would range from approximately 78 to 125 feet above ground level at maximum leg extension with an average height of approximately 100 feet. The variation in tower heights would accommodate variations in slope and elevation due to the hilly terrain and address the need for safe electrical clearance to ground level and between lines that are crossing over other electrical circuits.

Installation of five new tubular steel poles (TSP) would involve boring a single foundation hole approximately 5 feet in diameter and 10 to 15 feet deep, depending on soil conditions. Workers would place reinforcing steel in the hole and secure the steel to a bolt assembly plate. Concrete forms that extend 2 or 3 feet above ground level would be installed and concrete would be poured around the reinforcing steel up to the level of the bolt assembly plate. TSPs typically consist of two or three sections, depending on the length or diameter of the pole. The pole base would be lifted by a crane onto the foundation and bolted in place. The crane would then lift the remaining sections and lower them into place. The top section would be fitted with arms and insulators prior to being lifted into place. The five poles proposed to be installed would be approximately 60 to 95 feet tall. As with the new lattice steel towers, the variation in pole height would accommodate variations in slope and elevation of the land surface to provide safe line clearance to the ground and to any other electrical circuits.

Removal of Towers. Prior to removing four of the existing lattice steel towers, a shoo-fly[1] would be constructed to temporarily support the conductors, allowing the lines to remain in service during the reconfiguration process. The shoo-fly would consist of wooden poles fitted with appropriate insulators installed adjacent to the existing towers. The conductors would be transferred to the shoo-fly poles from the existing towers. Once the conductors are clear of the existing towers, workers would unbolt the tower sections so they can be lifted by a crane and placed on an adjacent work area for dismantling. After all tower sections are removed, the concrete foundations would be excavated to about 3 feet below ground level and the remaining portions of the foundations abandoned in place. The foundation work would be performed with a backhoe, where accessible, and with air compressor-powered hand tools at any sites inaccessible by a backhoe. The resulting hole would be backfilled to grade with the excavated soil material.

Stringing of Conductor. Installation of the new structures and reconfiguration of the existing power lines to tie into the new switching station would involve the installation of new conductor on the lines. The new conductor would be 477 KCmil[2] aluminum conductor with steel support (ACSS). There would be two circuits of conductor strung along the towers and poles with three individual conductors per circuit for a total of six conductors. Before conductor installation begins, a temporary clearance structure would be installed to protect the existing adjacent 60 kV line where it crosses under the 115 kV lines. The clearance structure typically would consist of one or two poles on either side of the line crossed with a V-shaped cargo net tensioned between the support structures.

The actual conductor stringing operation would begin with the installation of sheaves or stringing blocks. The sheaves are rollers attached to the cross-arm of the supporting structure. The sheaves allow the individual conductor to be pulled through each structure until the conductor is ready to be pulled up to the final tension position.

After the pull and tension equipment is in place, a sock line (a small cable used to pull in the conductor) would be pulled from tower to tower using a light-duty helicopter. The helicopter would be stored and fueled at the 2-acre work space located northwest of the switching station (see Figure 2.1-2), on the north side of the 500 kV line, and used over a period of a few days. The hours of helicopter operation would be between 7:00 a.m. and 5:30 p.m. The flight path would be between the staging area (landing zone) and various towers, and would follow power lines within the project area. After the sock line is installed, the conductor would be attached to the sock line and pulled in, or strung, using the tension-stringing method. This method involves pulling the conductor through each tower under a controlled tension to keep the conductor above the ground.

After the conductor is pulled into place, sags would be adjusted to a pre-calculated level. The conductor would then be clamped to the end of each insulator hardware assembly as the sheaves are removed. The final step of conductor installation would be to install vibration dampers or other accessories.

---

[1] A shoo-fly is a conductor or conductors strung as a temporary substitute for a more permanent installation; these conductors can be in a substation as a substitute for a section of bus or a short section of transmission line.

[2] KCmil is equal to 1,000 circular mil. A circular mil is a unit of area equal to the area of a circle with a diameter of 1 mil (one thousandth of an inch).

It is anticipated that new conductor first would be installed on the new structures, and then a clearance would be taken on the affected 115 kV lines so that the new conductor can be pulled to design tension and connected at the nearest existing tower not affected by the reconfiguration. The lowest conductor would be a minimum of 27 feet above the ground level, the phase-to-phase clearance at structures would be approximately 10 feet vertical and 16 feet horizontal, and the approximate spans between poles or towers would range from 100 to 800 feet. The shoo-fly poles and old conductor would be removed when the installation of new conductor is complete.

Site Cleanup and Landscaping

Site cleanup would involve final grading to original topographic contours where possible, and restoring and cleaning up all disturbed areas, including temporary work spaces, temporary access roads to the pull sites and tower work areas, and the temporary access road to the switching station site. Towers, shoo-fly poles, and conductors removed from the project site would be dismantled and transported to appropriate disposal facilities to be reused, recycled, or disposed of properly. PG&E would conduct a final survey to ensure that cleanup activities have been successfully completed.

Additionally, landscaping would be installed as described in the project's Conceptual Landscape Plan illustrated on Figure 3.1-4 and described in Section 3.1, Aesthetics. Planted trees and shrubs would be irrigated using water trucked to the project site. Irrigation would be performed up to the first 3 years after the landscaping is installed, until the plants become established.

Construction Equipment, Staging Areas, and Workforce

Typical Construction Equipment

Typical construction equipment that would be used during construction of the proposed project is listed in Table 2.4-4.

Table 2.4-4: Typical Construction Equipment

Equipment	Use
1/2-ton pickup truck	Transport construction personnel
3/4-ton pickup truck	Transport construction personnel
Crew-cab truck (3/4- to 1-ton)	Transport construction personnel
Road grader (six-wheel)	Road grading and final site grading
Elevating scraper	Rough site grading
D5 and D9 bulldozers	Rough and final site grading
Bulldozer with sheepsfoot compactor	Grading/shaping/initial compaction
Powered road roller	Subgrade compaction
Skip loader	Move materials
Skid steer	Move materials

Table 2.4-4 *(Continued)*: Typical Construction Equipment

Equipment	Use
Forklift	Lift/move materials
Water truck	Dust and fire control
Man lift	Elevate personnel
Motorized asphalt layer	Road construction
Finish road roller	Asphalt lift compaction
Boom truck	All construction activities
Flat-bed truck (2-ton)	Haul materials
Flat-bed boom truck	Haul and unload materials
Dump truck (5- to 10-ton)	Haul spoils and import materials
Semi-tractor trailer	Haul structure components
Construction trucks and trailers (2- to 60-ton)	Haul materials/equipment
Rigging truck	Haul tools and equipment
Mobile cranes (15-, 30-, and 80-ton)	Erect structures/set buildings
Mechanic truck	Service and repair equipment
Crawler-mounted auger	Excavate foundations
Helicopter	Pull sock line
Truck-mounted digger	Excavate foundations
Track-mounted backhoe	Excavation
Crawler backhoe	Excavate foundations
Puller	Pull conductor wire
Tensioner	Pull conductor wire
Air compressor	Operate air tools
Air tamper	Compact soil around poles
Portable generator	Power tools
Concrete truck	Transport concrete for foundations
Light truck	Provide illumination
Fuel truck	Refuel equipment
Aerial lift truck	String conductor wire

Staging Areas

Access to the switching station and power line reconfiguration work areas would be via San Juan Grade Road and Crazy Horse Canyon Road. PG&E would construct an approximately 750-foot-long, 16-foot-wide permanent access road from San Juan Grade Road to the new switching station location. Access to power line reconfiguration work areas would be through an existing gate and along a twin-track road that is currently used by a private property owner for farming and by PG&E to access the Lagunitas Switch. The gate is located on San Juan Grade Road approximately 1,000 feet northeast of the intersection of San Juan Grade Road and Crazy Horse Canyon Road and 1,300 feet southwest of the proposed permanent access road, as shown in Figure 2.1-2. . Access to two temporary pull sites (a 2-acre site accessed from Crazy Horse Canyon Road and a 1-acre site accessed from the new permanent access road) would require traversing approximately 400 feet of pastureland to each location; no temporary access roads would need to be constructed. A 2-acre helicopter landing site located northwest of the switching station on the north side of the 500 kV line and a workspace around a tower northwest of the switching station on the south side of the 500 kV line would be accessed by an existing dirt road.

Construction work areas for power line reconfiguration would consist of a 50-foot-wide strip along the proposed power line alignments. Work areas for installation and/or removal of the towers and tubular steel poles would consist of a 200-foot radius around each tower or pole. Conductor pull and tension sites for the reconfiguration would measure approximately 150 feet by 300 feet or 300 feet by 300 feet, depending on location. Larger areas would be needed to work around existing trees. Preparation of all work spaces would involve mowing existing grasses and trimming or removing shrubs and trees as necessary. These work areas would be returned to pastureland upon completion of construction, and no permanent surface disturbance would be required.

Parking, laydown, and staging areas for construction materials and equipment at the switching station site would occupy the eastern portion of the approximately 5.2-acre graded pad.

Construction Workforce and Schedule

The workforce would vary depending on the activities in progress and the phase of construction. Table 2.4-5 summarizes the workforce needed during construction. The maximum number of workers on site at any time would be about 20 for approximately 5 months.

Construction is scheduled to begin in July 2011 to meet an in-service date of December 2012. Grading activities are anticipated to require 4 months, and the proposed switching station construction and power line reconfiguration would require approximately 1 year of continuous activity. However, storm events during the rainy season at the end of the proposed construction period could extend the construction period beyond the anticipated total of 16 months and push the in-service date to spring 2013. To complete all grading and other construction activities affected by rain before the onset of the rainy season, the activities would need to begin in July 2011, as soon as permits and agency approvals have been granted.

Table 2.4-5: Summary of Construction Workforce and Construction Schedule

Phase	Workforce	Duration
Grading activities for the switching station pad and access road construction	12 workers	4 months
Power line reconfiguration	8 workers	Intermittently for 1 year following grading
Switching station foundation construction	10 workers	5 months following grading
Construction of aboveground facilities at the switching station	8 workers	Approximately 4 months once foundation work is completed
Testing and commissioning of the switching station	10 workers	4 weeks

2.4.3 OPERATION AND MAINTENANCE

System Monitoring and Control

Operation of the proposed switching station would initially be controlled from the PG&E Control Center in Moss Landing. Control would eventually be transferred to a PG&E facility in Vacaville as PG&E consolidates its control infrastructure. Station and line alarms would be transmitted by the dedicated phone line to the control center. If an alarm is triggered that requires an on-site visit, personnel would be dispatched from PG&E's local maintenance center in Moss Landing.

Facility Inspection

Regular inspection of equipment and electrical lines, support systems, and instrumentation and control systems is critical for the safe, efficient, and economical operation of the project. The power lines would be inspected on an annual basis for corrosion, misalignment, and foundation condition. Hardware, insulator keys, and conductors also would be inspected. The power line inspections would not change from those already conducted annually on the existing lines. Annual ground inspections would be performed on poles, anchors, and rights-of-way, and would include a check of the conductors and fixtures for corrosion, breaks, broken insulators, and bad splices. Tree trimming would be conducted in accordance with CPUC's General Order 95.

Under normal circumstances, the switching station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions.

Permanent parking for facility inspections, operation, and maintenance would be entirely within the switching station site or along the access road at the entrance to the switching station.

2.5 Required Approvals

The CPUC is the lead state agency for project review under CEQA. A summary of the permits and approvals from other federal, state, and local agencies that may be needed for the project, as

submitted by PG&E with the PEA as part of its application, may be found in the PEA in Table IS-1 on page 24 of the Initial Study Environmental Checklist Form.

2.6 Right-of-Way Acquisition

PG&E has executed a purchase option agreement for 25 acres surrounding the proposed switching station site. The option agreement includes the use of all anticipated construction work areas associated with the power line reconfigurations. Once regulatory approvals are obtained, PG&E would exercise the option and obtain fee title to the switching station site and use of the associated temporary construction work areas.

Land entitlement issues are not part of the regulatory proceeding in which the CPUC is considering whether to grant or deny PG&E's application for a PTC. Rather, any land rights issues would be resolved in subsequent negotiations and/or condemnation proceedings in the proper jurisdiction following the decision by the CPUC on PG&E's application.

2.7 Applicant Proposed Measures

PG&E's APMs are listed below and have been incorporated into the proposed project's design and construction plans to minimize the proposed project's potential impacts. These measures would be implemented regardless of any regulatory oversight by the CPUC. The assessment of potential project-specific impacts and associated levels of significance are discussed in the context of these APMs being included as part of the project. Where potentially significant impacts were identified, additional mitigation measures were added throughout this IS/MND, superseding or supplementing existing APMs to reduce impacts to a less than significant level. APMs are presented below as listed in Table 1-3 and described in detail in the respective resource chapters of the PEA (TRC 2010). Names and numbers have been added to each APM for clarification. Any numbering or referencing of information within the description of the APM refers to information found within the PEA, not this IS/MND.

Aesthetics

APM Aesthetics-1. Construction activities will be kept as clean and inconspicuous as practical. Where practical, construction storage and staging will be screened from close-range residential views.

APM Aesthetics-2. All disturbed terrain at the switching station site will be restored through recontouring and revegetation using a seed and plant mixture approved by a qualified landscape/ horticultural professional.

APM Aesthetics-3. Project landscaping will screen views of the new facility and help integrate its appearance with the surrounding landscape setting. Project landscaping will involve the installation of informal groupings of native trees and shrubs around the perimeter of the switching station and along San Juan Grade Road in order to provide visual screening.

APM Aesthetics-4. Non-specular conductors will be used to reduce the potential for new sources of glare. A non-reflective finish will be used for switching station equipment to reduce the potential for new sources of glare.

APM Aesthetics-5. The project will incorporate use of an entry gate design to blend in with the existing rural setting found along on San Juan Grade Road and the general project area.

APM Aesthetics-6. The project will incorporate a chain link fence that will enclose the graded switching station pad. The fence will include green slats, as requested by the County.

Air Quality

APM Air Quality-1. The project will implement all of the following Best Management Practices (BMPs):

1. Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure.
2. Suspend all grading activities during periods of high wind (over 15 miles per hour (mph)).
3. Apply chemical soil stabilizer on inactive construction areas (defined as disturbed lands within the project area that are unused for at least four consecutive days).
4. Apply non-toxic soil binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area.
5. Cover all trucks hauling dirt, sand or loose materials.
6. Plant vegetative ground cover in disturbed areas as soon as possible.
7. Cover inactive storage piles.
8. Install wheel washers at the entrance to construction sites for all exiting trucks.
9. Sweep public roads if visible soil material is carried out from the construction site.
10. Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours.
11. The phone number of the Monterey Bay Unified Air Pollution Control District (MCUAPCD) shall be visible to ensure compliance with Rule 402 (nuisance).
12. Limit the area of earth disturbing activities at any one time.

Greenhouse Gases

APM GHG-1. PG&E will implement the following measures to address GHG emissions:

1. Identify park-and-ride facilities in the project vicinity and encourage construction workers to carpool to the job staging area to the extent feasible. The ability to develop an effective carpool program for the proposed project will depend upon the proximity of carpool facilities to the staging area, the

geographical commute departure points of construction workers, and the extent to which carpooling will not adversely affect worker arrival time and the project's construction schedule.

2. Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
3. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the California Air Resources Board (CARB) Statewide Portable Equipment Registration Program, or will meet at a minimum U.S. Environmental Protection Agency (EPA)/CARB Tier 1 engine standards.
4. Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
5. Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.
6. Encourage the recycling of construction waste where feasible.

APM GHG-2. To further avoid and minimize potential SF_6 emissions, PG&E will incorporate the following measures:

1. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF_6 emission reduction program. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor SF_6 leakage rates in order to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of EPA's SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak rate by 89 percent and absolute SF_6 emissions by 83 percent.

2. Require that Crazy Horse Canyon Switching Station's breakers have a manufacturer's guaranteed leakage rate of 0.5 percent per year or less for SF_6.
3. Maintain substation breakers in accordance with PG&E's maintenance guidelines.
4. Comply with California Air Resources Board Early Action Measures as these policies become effective.

APM GHG-3. In addition to these measures, PG&E is implementing the following voluntary company-wide actions to further reduce GHG emissions:

1. Pacific Gas & Electric Company supports the Natural Gas STAR, a program promoting the reduction of methane from natural gas pipeline operations. Since 1998, PG&E has avoided the release of thousands of tons of methane.
2. In June 2007, PG&E launched the ClimateSmart program, a voluntary greenhouse gas (GHG) emissions reduction program that allows its customers to balance out the GHG emissions produced by the energy they use, making their energy use "climate neutral." For ClimateSmart customers, PG&E calculates the amount needed to fund sufficient GHG emissions reduction projects in California to make their energy use "climate neutral." This is added to the customer's monthly energy bill and is tax deductable.
3. Pacific Gas & Electric Company is offsetting all of the GHG emissions associated with energy used in PG&E's buildings by participating in its ClimateSmart program. In 2007, this amounted to over 50,000 tons of CO_2 reductions.
4. California Air Resources Board plans to adopt AB-32 Early Action Measures to reduce GHG emissions. PG&E will implement the appropriate Early Action Measures as they become effective.

Biological Resources

APM Biology-1. All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers. Trash containers will be removed from the project area at the end of each working day.

APM Biology-2. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road parking shall only be permitted in previously identified and designated work areas.

APM Biology-3. Vehicles will be confined to established roadways and pre-approved access roads, overland routes and access areas. Access routes and temporary work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Vehicular speeds will be kept to 15 mph on unpaved roads.

APM Biology-4. All equipment will be maintained such that there will be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other

construction equipment will be restricted to designated staging areas located at least 100 feet from any down gradient aquatic habitat unless otherwise isolated from habitat. Proper spill prevention and cleanup equipment shall be maintained in all refueling areas.

APM Biology-5. No pets or firearms will be permitted at the project site.

APM Biology-6. PG&E will consult with Monterey County regarding BMPs if more than three protected trees will be removed by the project. PG&E will replace removed trees at a one-to-one ratio.

APM Biology-7. In areas that will be restored following construction of the facility, PG&E will minimize clearing of oaks to only what is required to maintain a safe facility. In these areas, PG&E will endeavor to retain a representative sample of sizes, ages and species of oaks with special emphasis placed on retaining samplings.

APM Biology-8. An environmental awareness program for all construction and on-site personnel will be conducted by a qualified biologist prior to the beginning of construction activities. Training will include a discussion of APMs being implemented to protect biological resources as well as the terms and conditions of all permits. Training will include information on the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Under this program, workers will be informed about the presence, life history, and habitat requirements of all special-status species with a potential to be affected within the project area. Training will include information on state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure will be produced for construction crews working on the project. The brochure will include color photos of sensitive species as well as a discussion of mitigation measures.

APM Biology-9. A qualified biological monitor will be on site during all ground-disturbing construction activities in or near sensitive habitats previously identified. The monitor will ensure implementation of and compliance with all APMs. The monitor will have the authority to stop work or determine alternative work practices in consultation with agencies and construction personnel as appropriate if construction activities are likely to impact sensitive biological resources. The biological monitor will complete daily logs to document construction activities and environmental compliance. The daily logs will be included in the project report submitted to the appropriate agencies following completion of construction. The biological monitor will be responsible for reporting any capture and relocation, harm, entrapment, or death of a listed species to the USFWS, the CDFG, and the CPUC, and for reporting any permit violations in a timely manner and as indicated in their respective permits.

APM Biology-10. Sensitive resources identified during pre-construction surveys in the project vicinity will be mapped and clearly marked in the field. Such areas will be avoided during construction to the extent practicable and/or additional measures specific to sensitive species types as described herein and that may be required by the United States Army Corps of Engineers (USACE), USFWS, CDFG, and Regional Water Quality Control Board (RWQCB) permits, will be implemented to avoid or minimize impacts.

APM Biology-11. PG&E will design the project to avoid the intermittent drainages and seasonal wetlands to the extent practicable. However, where impacts to the drainages and wetlands cannot be avoided PG&E will provide compensation as required by the USACE, USFWS, CDFG, and RWQCB.

APM Biology-12. Work in aquatic or wetland habitat is limited to the installation of the permanent access road in the wetland located adjacent to San Juan Grade Road. All ground-disturbing work at this location will take place in dry conditions.

APM Biology-13. PG&E will obtain coverage under the Construction Storm Water Permit Program and implement BMPs for erosion and sediment control.

APM Biology-14. A Stormwater Pollution Prevention Plan (SWPPP) will be developed that describes sediment and hazardous materials control, fueling and equipment management practices, and other factors deemed necessary for the project. Erosion control measures will be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, and waters of the state, as well as aquatic habitat occupied by sensitive species. Erosion control measures will be monitored on a regularly scheduled basis, particularly during times of heavy rainfall. Corrective measures will be implemented in the event erosion control strategies are inadequate. Sediment/erosion control measures will be continued in the project area until such time that soil stabilization is deemed adequate. Brush or other similar debris material will not be placed within any stream channel or on its banks. No project work activity is planned within the limits of any stream channel.

APM Biology-15. PG&E has and will implement its system-wide program which includes established procedures for handling and managing hazardous substances and emergency response in the event of a hazardous substance spill. These procedures will add to the requirements in the project SWPPP.

APM Biology-16. PG&E will prepare a Fire Prevention and Response Plan that will include reducing the potential for igniting combustible materials. The procedures will cover electrical hazards, flammable materials, smoking, vehicle and equipment access, and fire watches during construction and maintenance procedures during subsequent operation. Project personnel will be directed to park away from dry vegetation; not to smoke; and to equip vehicles with appropriate firefighting equipment; such as water dispensers and shovels, in times of high fire hazard.

APM Biology-17. A pre-construction survey will be conducted by a qualified botanist or biologist prior to commencement of construction in each area. All rare plant populations will be appropriately marked or flagged for exclusion, or as appropriate, the limits of construction will be marked between the population and the work area. Surveys and marking or flagging must be completed no more than 30 days prior to construction. In the event that any previously unidentified listed plants, or California Native Plant Society (CNPS) List 1-3 plants cannot be avoided, PG&E will consult with the USFWS and/or the CDFG (depending on whether the species is on the federal or state list of sensitive species) to determine appropriate measures to minimize effects to the species and its habitat during construction of the project, as well as during operation and maintenance. The CPUC will be informed of the results of any agency consultations.

APM Biology-18. Vegetation clearing in occupied Pajaro manzanita habitat should be conducted after Pajaro manzanita has set seed and before flowering begins (typically between May and November). If mechanical brushing is conducted in occupied Pajaro manzanita habitat, mastication implements should not come within 6 inches of the ground surface to avoid disturbing the seed bank. Where feasible, removal of entire Pajaro manzanita plants from the ground should be avoided.

APM Biology-19. Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.

APM Biology-20. Best Management Practices such as silt fencing, hay bales, or fiber rolls, will be placed near the intermittent drainages and seasonal wetlands to prevent sedimentation runoff from flowing into Gabilan Creek.

APM Biology-21. Pre-construction surveys for special-status amphibians and reptiles will be conducted no more than two weeks prior to the commencement of construction. Surveys will include work areas within 600 feet of suitable California tiger salamander (CTS) breeding habitat and work areas within 300 feet of suitable California red-legged frog (CRLF) aquatic habitat. Surveys will be conducted by a qualified, agency-approved biologist. The biologist will relocate any special-status species to a location previously agreed upon by the USFWS and the CDFG. Before the start of work each morning, the biologist will check under any equipment and stored construction supplies left in the work area overnight within 600 feet of suitable habitat. All holes and trenches in habitat areas will be backfilled or covered at the end of the work day to prevent entrapment of special-status species.

APM Biology-22. All ground-disturbing construction activities within 600 feet of suitable aquatic habitat for CRLF and CTS will be limited to May 1 through October 31, to the greatest extent feasible. For work in these areas, a qualified biologist will conduct a pre-construction survey of the work area immediately preceding construction activities. All potential habitat areas including burrows, woody debris piles, and wetlands within the project area will be thoroughly checked. Any special-status species found will be captured and relocated to a USFWS- and CDFG-approved location type (e.g., a small mammal burrow) and area, prior to the start of construction.

APM Biology-23. Prior to the commencement of construction activities, flagging, signage, and/or high visibility fencing will be erected around the CTS and CRLF aquatic habitat to identify and protect it from the encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing will be inspected before the start of each workday and maintained until completion of the activity. Once the project site is prepared and work is only occurring in the switching station will the fencing be removed. Only tightly woven netting or similar material will be used for all geo-synthetic erosion control materials such as coir rolls and geo-textiles. No plastic monofilament matting will be used for erosion control measures.

APM Biology-24. Construction activities within 600 feet of suitable aquatic habitat shall not begin prior to 30 minutes after sunrise and will cease no later than 30 minutes before sunset.

APM Biology-25. Plywood sheets will be used to temporarily cover potentially active burrows in work areas within 600 feet of suitable aquatic habitat. Burrows will be covered after re-location has taken place, if necessary, or otherwise specified in the Biological Opinion or Incidental Take Permit.

APM Biology-26. PG&E is currently in consultation with the USFWS and CDFG regarding compensation and conservation measures for any potential take of the species and its associated habitat.

APM Biology-27. Pre-construction bird nesting surveys in the project area will be conducted before work is performed between February 1 and August 15. To the extent possible, working in the vicinity of active nests will be avoided; however, if avoidance is not practicable, a buffer zone, as determined by a qualified biologist, will be maintained around the active nest to prevent nest abandonment. In the event that work will take place within 50 feet (300 feet for raptors) of an active nest, a biological monitor will monitor the activity of the nesting birds during work to determine if construction activities are resulting in significant disturbance to the birds. If the qualified biologist determines that work is disrupting nesting, then work in that area will be halted until nesting is completed and the young have fledged.

APM Biology-28. The recommended preconstruction surveys will also serve to identify any burrowing owl and owl signs (e.g., white wash at burrow entrances). If ground-disturbing activities in suitable habitat are delayed or suspended for more than 30 days after the pre-construction surveys, the site will be resurveyed. If no burrowing owls are detected, no further mitigation is necessary. If active burrows are found near a work area, work in the vicinity of the burrows will be limited as follows:

1. No disturbance will occur within approximately 160 feet (50 meters) of occupied burrows during the non-breeding season of September 1 through January 31, or within approximately 250 feet (75 meters) during the breeding season of February 1 through August 31.
2. The limits of the exclusion zone in the project work area will be clearly marked with signs, flagging and/or fencing.
3. If work within these limits is unavoidable while burrows are active, work will only take place within the presence of a qualified monitor who would monitor to determine if the owls show signs of disturbance or, upon prior approval from CDFG a passive relocation effort (displacing the owls from the work area) may be conducted as described below, and subject to the approval of the CDFG.
4. Passive relocation of owls may occur during the non-breeding season (September 1 through January 31) with prior approval from CDFG. Passive relocation would include installing one-way doors on the entrances of burrows. The one-way doors would be left in place for 48 hours to ensure the owls have vacated the nest site. Owls would not be relocated during the breeding season.

APM Biology-29. Before the spring breeding season (and prior to start of construction), a qualified biologist will perform a survey for roosting bats or maternity colonies at the proposed project site.

Surveys will evaluate the probability for trees to host roosting bats. For trees considered to have a high probability for bats, acoustic monitoring will be performed in early summer to detect if there are any roosting sites.

If avoidance of an active roosting bat or maternity colony is not practicable, a sufficient buffer will be established in consultation with the CDFG. If acoustic monitoring detects that bats are using trees that need to be cut down, exclusionary one-way doors will be installed in late August, after completion of the maternity season. Roost trees will be removed after it has been confirmed that roosting bats have departed. If a roost is lost, PG&E will consult with the CDFG to see if the agency recommends bat boxes to be installed in the vicinity of the cut tree.

In the event that a roosting bat or maternity colony occurs within or near the project area, a qualified biological monitor will be provided and will remain on-site during construction activities to ensure there is no nest abandonment.

APM Biology-30. If a bird electrocution does occur at the project site, PG&E will implement the following corrective actions as outlined in their Avian Protection Plan Implementation document:

1. If a raptor or a threatened or endangered bird is electrocuted on distribution (pole or mid-span), transmission, or substation facilities, the first line supervisor or designee (incident investigator) shall visit the incident site as soon as possible following the incident. The incident investigator shall be qualified, because of knowledge, training, and work experience, to evaluate and assess bird-related incidents, poles, or other structures.
2. The incident investigator will recommend retrofits with avian-safe devices if the incident involved a raptor and schedule any retrofit work to be completed as soon as practical, based on material availability, facility accessibility, clearances, etc.
3. If avian program management personnel determine that certain poles or structures present a particularly high risk to raptors, they may require that work to make the poles or structures avian-safe be completed within 30 days or less. The criteria for making this determination may include, but is not limited to the following circumstances:
    a. Electrocuted eagle, threatened, or endangered species
    b. Multiple raptor electrocutions at the same location
    c. Multiple electrocutions in close proximity and within a recent time frame
    d. Agency requests

APM Biology-31. Protective measures that will be implemented include:

1. A qualified biologist will survey the project area for badger dens.
2. If a badger den is found, PG&E will consult with CDFG to confirm if it is acceptable to live-trap the badger(s) and relocate to a suitable site.

3. If badger dens are found in the project area but will not be affected directly by construction activities, PG&E will contact the CDFG and an exclusion area will be established around the dens.

APM Biology-32. All project vehicles will be washed before arrival on site at a PG&E wash facility or otherwise approved wash-down location. Vehicles will also be cleaned at the completion of the project or when off-road use for that vehicle has been completed.

Cultural Resources

APM Cultural-1. PG&E will design and implement a Worker Education Program that will be provided to all project personnel who may encounter and/or alter historical resources or unique archaeological properties, including construction supervisors and field personnel. No construction worker will be involved in field operations without having participated in the Worker Education Program. The Worker Education Program will include, at a minimum:

1. A review of archaeology, history, prehistory and Native American cultures associated with historical resources in the project vicinity.
2. A review of applicable local, state and federal ordinances, laws and regulations pertaining to historic preservation.
3. A discussion of site avoidance requirements and procedures to be followed in the event that unanticipated cultural resources are discovered during implementation of the project.
4. A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and PG&E policies.
5. A statement by the construction company or applicable employer agreeing to abide by the Worker Education Program, PG&E policies and other applicable laws and regulations.

APM Cultural-2. In the unlikely event that previously unidentified cultural resources are uncovered during implementation of the project, all work within 165 feet of the discovery will be halted and redirected to another location. PG&E's cultural resource specialist or his/her designated representative will inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource will be documented on California State Department of Parks and Recreation cultural resource record forms and no further effort will be required. If the resource cannot be avoided and may be subject to further impact, PG&E will evaluate the significance and California Register of Historical Resources (CRHR) eligibility of the resource and implement data recovery excavation or other appropriate treatment measures if warranted.

APM Cultural-3. In the event human remains are encountered during the project, work within 50 feet of the find will be halted and the County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage

Commission, who will then designate a Most Likely Descendent. The Most Likely Descendent will consult with PG&E's archaeologist to determine further treatment of the remains.

Geology

APM Geology-1. Surface disturbance will be minimized to the extent consistent with safe and efficient completion of the project scope of work.

APM Geology-2. Topsoil will be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil will be used to reclaim areas of temporary construction disturbance. Once temporary surface disturbances are complete, areas that will not be subject to additional disturbance will be stabilized by landscaping.

APM Geology-3. Erosion control BMPs will be implemented where grading occurs.

Hazards and Hazardous Materials

APM Hazards-1. PG&E will submit a Hazardous Substance Control and Emergency Response Plan to the CPUC for recordkeeping at least 30 days prior to project construction. The plan will identify methods and techniques to minimize the exposure of the public to potentially hazardous materials during all phases of project construction through operation. The plan will require implementing appropriate control methods and approved containment and spill-control practices (i.e., spill control plan) for construction and materials stored on-site. All hazardous materials and hazardous wastes will be handled, stored, and disposed of, in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. If it is necessary to store any chemicals on-site, they will be managed in accordance with all applicable regulations. Material Safety Data Sheets will be maintained and kept available on-site, as applicable.

APM Hazards-2. PG&E will prepare a site-specific Health and Safety Plan to ensure that potential safety hazards would be kept at a minimum. The plan will include elements that establish worker training and emergency response procedures relevant to project activities. The plan will be submitted to the CPUC at least 30 days prior to construction for CPUC recordkeeping.

APM Hazards-3. PG&E will prepare and submit a Fire Prevention and Response Plan to the CPUC and to local fire protection authorities for notification at least 30 days prior to construction. The plan will include fire protection and prevention methods for all components of the project during construction. The plan will include procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, use of flammable materials, and smoking onsite during construction and maintenance procedures. Project personnel will be directed to park away from dry vegetation; to equip vehicles with fire extinguishing equipment; not to smoke; and to carry water, shovels, and fire extinguishers in times of high fire hazard.

APM Hazards-4. An environmental training program will be established to communicate to all field personnel any environmental concerns and appropriate work practices, including spill prevention and response measures and BMPs. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific plans, including but not limited to the

project's Hazardous Substances Control and Emergency Response Plan, SWPPP, Erosion Control and Sediment Transport Plan, and Health and Safety Plan.

APM Hazards-5. A monitoring program will be implemented to ensure that the plans are followed throughout the construction period. BMPs, as identified in the project's SWPPP and Erosion Control and Sediment Transport Plan, will be implemented during the project to minimize the risk of an accidental release and to provide the necessary information for emergency response.

Hydrology and Water Quality

APM Hydrology-1. Worker environmental awareness will communicate environmental issues and appropriate work practices specific to this project. This awareness will include spill prevention and response measures and proper BMP implementation. The SWPPP training will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific water quality requirements, including applicable portions of the Health and Safety Plan and PG&E's Hazardous Substances Control and Emergency Response program.

APM Hydrology-2. PG&E will file a Notice of Intent with the State Water Resources Control Board for coverage under the General Construction Storm Water Permit and will prepare and implement a SWPPP in accordance with General Order No. 99-08-DWQ. Implementation of the SWPPP will help stabilize graded areas and waterways and reduce erosion and sedimentation. The following measures are generally drawn from that permit and PG&E's standard practices, and will be included in the SWPPP prepared for the construction of the project:

1. All BMPs will be on-site and ready for installation before the start of construction activities.
2. BMPs will be developed to prevent the acceleration of natural erosion and sedimentation rates. A monitoring program will be established to ensure that the prescribed APMs are followed throughout project construction. BMPs will include:
    a. straw wattles, water bars, covers, silt fences, sensitive area access restrictions (e.g., flagging), or other sediment containment methods placed around and/or down slope of work areas prior to earth disturbing activities and before the onset of winter rains or any anticipated storm events;
    b. mulching, seeding, or other suitable measures to protect exposed areas during construction activities as necessary;
    c. installation of additional silt fencing prior to construction along the southern and western edges of the proposed switching station site to address unforeseen runoff from the property into the nearby intermittent drainages, seasonal wetlands, and Gabilan Creek;
    d. use of brooms and shovels (as opposed to water) when possible to maintain a clean site;

e. construction of a stabilized construction entrance/exit to prevent tracking of dirt onto San Juan Grade Road;

f. establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil, gas, and engine fluids. Use of oil pans under stationary vehicles is strongly recommended; and

g. no overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands, culverts, or creeks will be positioned within secondary containment.

3. All BMPs will be inspected before and after each storm event. BMPs will be maintained on a regular basis, and replaced as necessary throughout the course of construction.
4. A Qualified SWPPP Practitioner will supervise placement of silt fencing at the proposed switching station site to limit the area of disturbance during construction at the site. The silt fence will be monitored regularly to ensure effectiveness.

PG&E will provide compensatory mitigation for permanent impacts to waters of the state and waters of the U.S. as required by the USACE, RWQCB, and CDFG as part of the permitting process for each agency.

Noise

APM Noise-1. "Quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) will be used during construction whenever possible.

APM Noise-2. PG&E will limit construction to the hours between 7 a.m. and 7 p.m., Monday through Saturday, to the extent feasible. If nighttime work is needed because of clearance restrictions on the power line, PG&E will take appropriate measures to minimize disturbance to local residents, including contacting nearby residences to inform them of the work schedule and probable inconveniences.

APM Noise-3. PG&E will encourage construction crews to limit unnecessary engine idling (see Air Quality measures).

APM Noise-4. Compressors and other small stationary equipment will be shielded with portable barriers in proximity to residential areas.

2.8 Alternatives

CEQA does not require a review of alternatives when, as with PG&E's project, the proposed project would result in no significant environmental impacts after mitigation (Guidelines, Sec. 15126.6, subd. (a) and (f)(2)(A)). This is because, under CEQA, a "reasonable alternative" is one that could feasibly accomplish most of the basic objectives of the project and could avoid or

substantially lessen one or more of the significant effects of the project (CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, Section 151626.6 as amended July 24, 2007).

This page is intentionally left blank

3: Environmental Setting and Environmental Impacts

3.1 Aesthetics

3.1.1 ENVIRONMENTAL SETTING

Regional Visual Character

The project area lies within California's north-central coast area at the foot of the Gabilan Range (Figure 3.1-1). These mountains are part of the northwest-southeast trending Coast Ranges that form the border between Monterey and San Benito Counties. Peaks in this area rise to 3,000 feet above mean sea level (msl). The relatively flat Salinas Valley is to the south, and the City of Salinas is approximately 4 miles away. A grid of rural roadways traverses the Salinas Valley agricultural landscape. To the north, a network of winding rural roads provides access through and over hillside areas.

The immediate project vicinity consists of undulating terrain punctuated by densely wooded riparian corridors. Gabilan Creek is located on the south side of San Juan Grade Road. Vegetation on hillsides includes oak-woodland savanna with seasonal grasslands interspersed with clusters of oaks. The immediate area is rural and agricultural, and includes grazing on the hillsides and strawberry's are grown on the flatter terrain.

Local Visual Character

Topography and Land Use

The switching station site is located in a small valley between two hill crests, approximately 0.5 mile northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road. Both roadways are located at the base of slopes, which results in substantial topographic screening with respect to views toward the switching station site. Existing transmission facilities, including lattice towers associated with four convening overhead lines, are an established part of the landscape view. The switching station site is located on the side of a hill between two lower ridges to the southwest and northeast, with an entry gate on San Juan Grade Road. The scattered non-native grasslands on the site are currently grazed. Scattered individual and groups of oak trees are also located across the site. An oak forest is located along the top of the ridgeline, north of the proposed switching station pad.

Figures 3.1-2B through 3.1-2E show representative views in the project area. Figure 3.1-2A depicts where the site photographs were taken.

Rural residences are located in the area, including:

- Eight residences along the south side of San Juan Grade Road
- One residence on Old Stage Road approximately 0.5 mile from the site
- Four hillside residences off of Crazy Horse Canyon Road to the north

Figure 3.1-1: Regional Landscape Context

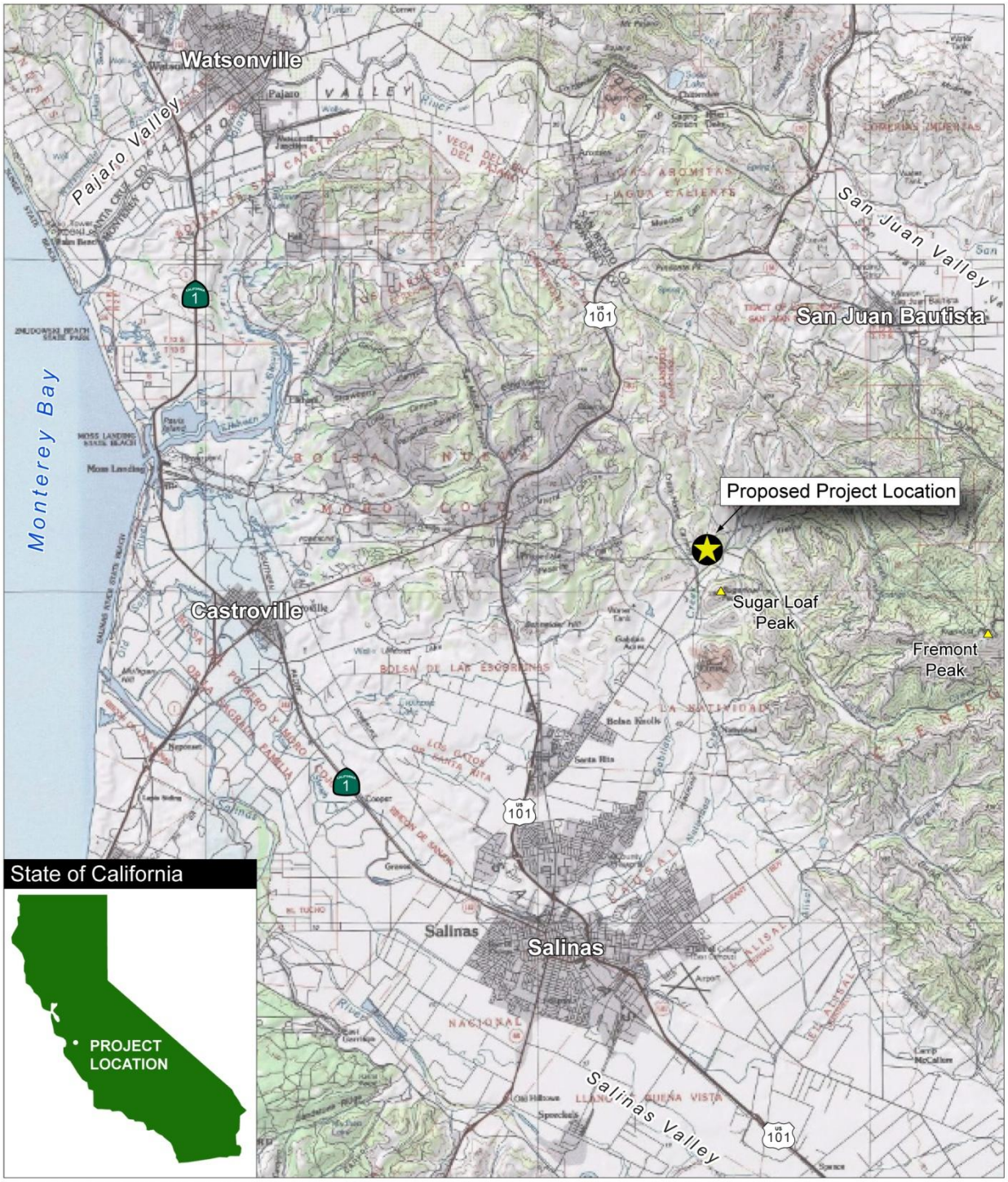


Figure 3.1-2A: Area Photographs and Key Observation Points (KOPs)

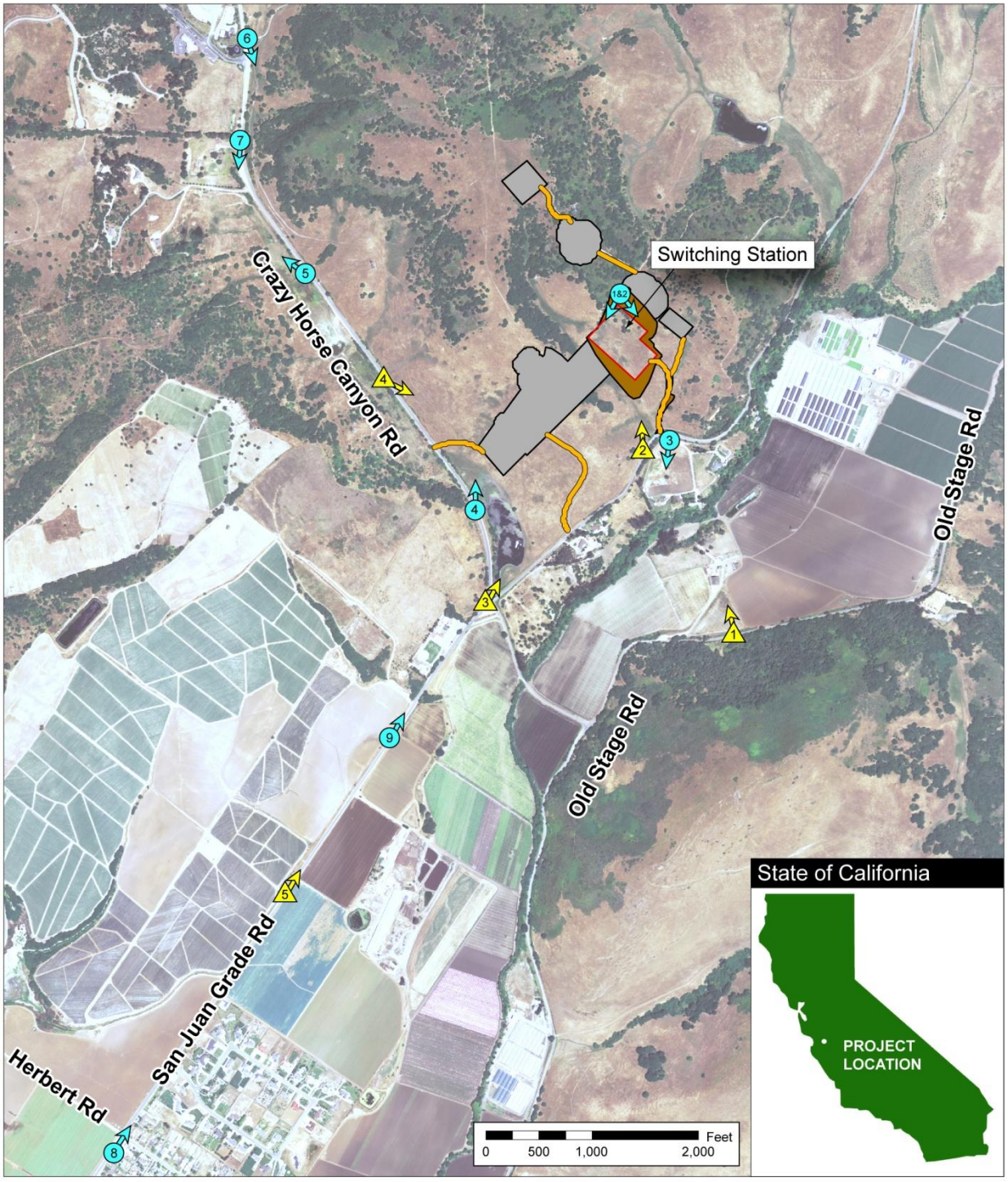


Figure 3.1-2B: Landscape Units and Photo Viewpoints Locations

1 Photo #1. View looking south from switching station area to San Juan Grade Road, private residences, and Old Stage Road in the foreground. Date of Photograph 7/12/10.

2 Photo #2. View looking south from switching station site toward San Juan Grade Road and Gabilan Acres in the middleground, and Salinas in background. Date of Photograph 7/12/10.

3 Photo #3. View looking south San Juan Grade Road to residence in background. (Photo: Environmental Vision)

4 Photo #4. View looking northeast from Crazy Horse Canyon Road (Photo: Environmental Vision)

SOURCE: 2M Associates

Note: Photos taken 7/12/2010

RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-2C: Landscape Units and Photo Viewpoints Locations

5 Photo #5. View looking north from Crazy Horse Canyon Road with unnamed lake and residences in foreground. Date of Photograph 7/12/10.

6 Photo #6. View looking south from the top of the grade on Crazy Horse Canyon Road with the Graniterock-A.R. Wilson Quarry in background. Date of Photograph 7/12/10.

7 Photo #7. View looking southeast from Crazy Horse Canyon Road to unnamed lake in foreground and Sugarloaf Peak in middleground. Date of Photograph 7/12/10.

8 Photo #8. View looking north From San Juan Grade Road at Gabilan Acres. Date of Photograph 7/12/10.

SOURCE: 2M Associates

Note: Photos taken 7/12/2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-2D: Landscape Units and Photo Viewpoints Locations

KOP #1. View looking north from Old Stage Road to switching station site. Date of Photograph 7/12/10.

KOP #3. View looking north from intersection of San Juan Grade Road and Crazy Horse Canyon Road. Date of Photograph 7/12/10.

Photo #9. View looking north From San Juan Grade Road at nearing Lagunita School. Photograph 7/12/10.

KOP #2. View looking north from San Juan Grade Road to switching station site. Date of Photograph 7/12/10.

SOURCE: 2M Associates

Note: Photos taken 7/12/2010

RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-2E: Landscape Units and Photo Viewpoints Locations

KOP #4. View looking southeast from Crazy Horse Canyon Road. Date of Photograph 7/12/10.

KOP #5. View looking north from San Juan Grade Road with switching station site in middleground in line with road. Date of Photograph 7/12/10.

SOURCE: 2M Associates

Note: Photos taken 7/12/2010

RMT ENVIRONMENT • ENERGY • ENGINEERING

Lagunita Elementary School, a public school on the west side of San Juan Grade Road, is approximately 300 feet south of Crazy Horse Canyon Road. Gabilan Acres, a subdivision off San Juan Grade Road, is approximately 1.7 miles southwest of the proposed switching station site, and a greenhouse/agricultural complex is located approximately 0.25-mile east of the switching station site on the east side of San Juan Grade Road. These nearby uses and sensitive receptors are shown in Figure 3.1-3.

Scenic Highways and Roads

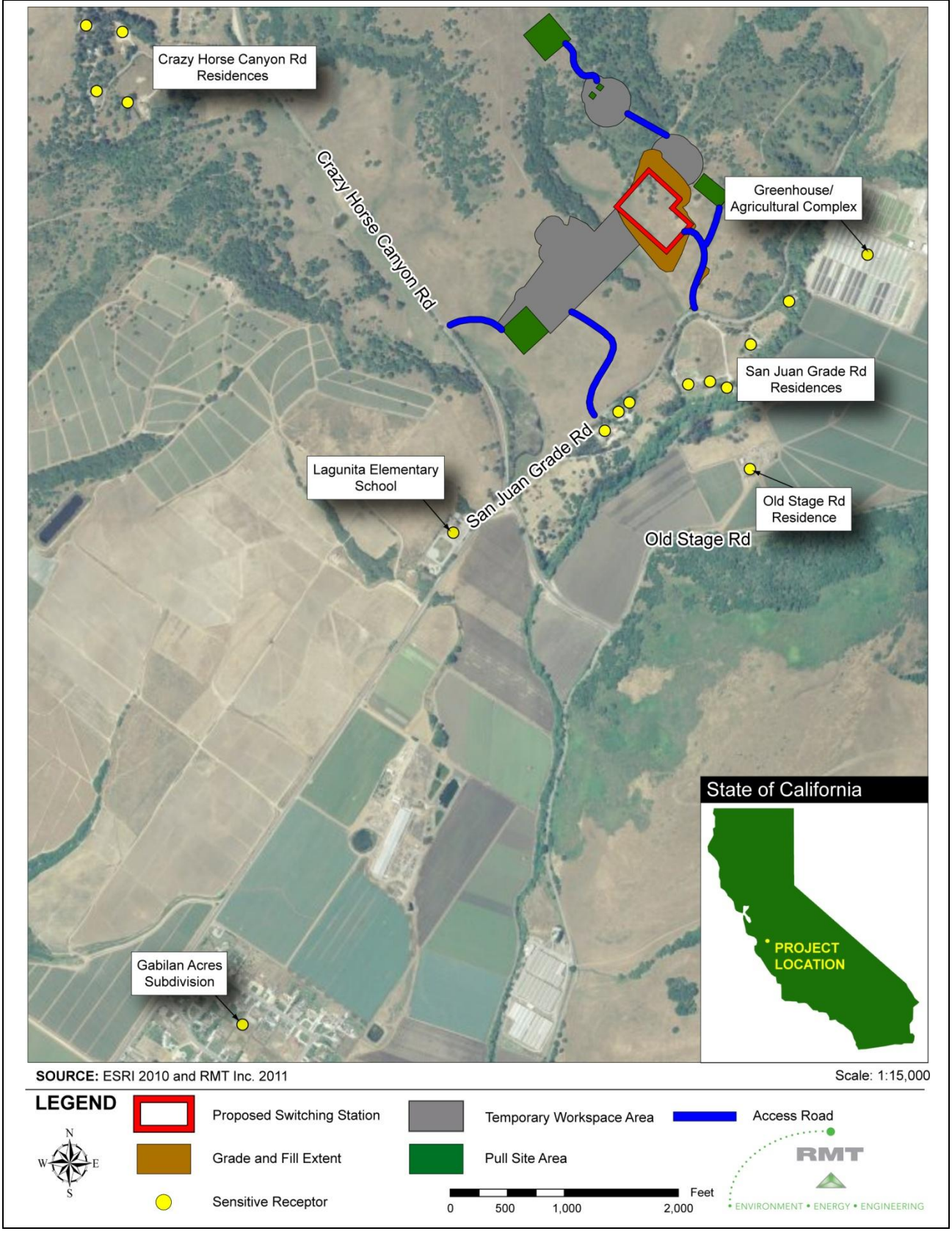
Monterey County has 97.4 miles of officially designated State Scenic Highways, which include portions of Highway 1 and State Routes 68 and 156. Portions of Highway 68 are also eligible for scenic highway status, but are not officially designated as such. These roadway corridors are west of the project area and are visually separated from the project area by distance and hilly topography (Monterey County 1982).

Monterey County General Plan (1982). The Monterey County General Plan, as adopted in 1982, identifies 17 miles of officially designated County Scenic Routes, which include Laureles Grade near Carmel and Interlake Road in the southern portion of the County, far from the project area. An objective of the Public Utilities Chapter of the General Plan is to ensure the aesthetic placement of utility lines (Objective 56.2). Policies to implement the objective emphasize minimizing views of service lines by requiring all new utility lines be placed underground in accordance with the Monterey County Subdivision Ordinance, and placing existing utility lines underground where feasible (Policies 56.2.1 and 56.2.2). However, County policies and regulations do not apply to public utility projects approved by the CPUC.

Standards for County scenic routes require that measures be taken to protect the scenic appearance of the visual corridor. These measures include regulations of land use and development intensity, detailed site planning, control of outdoor advertising, control of grading and landscaping, and design review of structures and equipment. Policies of the Area Plan that affect visual resources include:

> **Policy 40.1.1.2 (GS):** Old Stage Road shall be designated a 'scenic road' within this Area Plan. All residential properties to be developed along Old Stage Road shall be subject to design approval. The voluntary efforts of landowners in preserving the scenic character of Reservation Road (and Old Stage Road) should be encouraged. Appropriate scenic preservation measures shall include, but not be limited to, screening of development with vegetation, treatment of exterior surfaces with earth tones, and setbacks.
>
> **Policy 7.1.3 (GS):** All vegetation on land exceeding 30 percent slope, particularly chaparral and broad leaf evergreen, should remain undisturbed to minimize erosion and retain important visual amenities.
>
> **Policy 7.2.3 (GS):** Native plant materials should be used to integrate the manmade environment with the natural environment and to screen or soften the visual impact of new development.

Figure 3.1-3: Sensitive Receptors in the Project Vicinity



North County Area Plan (1985). The project area is within the boundaries of the North County Area Plan, part of the Monterey County General Plan. The *Scenic Highways and Visual Sensitivity Map* of the Area Plan identifies both Crazy Horse Canyon Road and San Juan Grade Road as Scenic Routes. The plan recognizes that "the foothills along San Juan Grade Road, besides providing spectacular pristine vistas along that route, are clearly visible from much of the North County and Greater Salinas Planning Areas." Policies of the North County Area Plan that affect visual resources include:

> **Policy 7.1.3 (NC):** To retain the viability of threatened or limited vegetative communities and animal habitats, to promote the area's natural scenic qualities, and to preserve rare, endangered, and endemic plants for scientific study, the conservation of North County's remaining tracts of native vegetation shall be given high priority.
>
> **Policy 26.1.6.1 (NC):** Where new development is permitted in sensitive or highly sensitive areas as shown on the Scenic Highways and Visual Sensitivity Map, the landscaping, building design, and siting of the development shall be critically reviewed to maintain the scenic value of the area.

Greater Salinas Area Plan (1985). The Greater Salinas Area Plan, part of the Monterey County General Plan, identifies Old Stage Road, which in part serves as the boundary for the Area Plan, as very sensitive. As noted above, the project is located within the North County Area Plan boundaries; however, the Greater Salinas Area is located within the vicinity of the project area. The Land Use Plan of the Greater Salinas Area Plan identifies Old Stage Road as an existing Scenic Route.

Scenic Trails and Historic Features

San Juan Grade Road is part of the National Park Service (NPS)-administered, 1,210-mile-long Juan Bautista de Anza National Historic Trail that extends from Nogales, Arizona, to San Francisco, California (NPS 2008a). This trail commemorates the first overland route connecting New Spain (Mexico) with San Francisco in 1775-1776.

The National Trail System Act of 1968 designated many historic and scenic trails across the country. The act provides guidelines for acquiring privately owned lands along the trails. These guidelines do not set forth any specific policies regarding protection of visual resources, which are delegated to the local level (NPS 2008b).

A roadside pullout located at the southwest corner of the intersection of San Juan Grade Road and Crazy Horse Canyon Road provides an opportunity for motorists to stop and view a historic marker (California Registered Historical Landmark No 6561) describing the Battle of Natividad. There are no specific state regulations governing the setting of historic markers. Views toward the marker face to the south and away from the project area.

Light and Glare

The project is located in a rural setting with little lighting, resulting in relatively high-quality night sky visibility. No lights currently exist in the proposed switching station area. There is no

continuous lighting along the local road system. Lighting in the immediate area surrounding the proposed project site includes a cobra-head fixture[1] and security lights at the agricultural complex located east of the project site as well as lights associated with the nearby school and individual residences.

Viewsheds

Figure 3.1-4 illustrates the viewsheds from the switching station. Due to intervening vegetation and topography, the foreground viewshed (0.25 to 0.5 mile from the observer) of the switching station is limited to an area located to the immediate south. This area includes a small portion of San Juan Grade Road immediately adjacent to the switching station, portions of Old Stage Road, and three residences. Middle-ground views (0.5 to 4 miles) of the switching station site are to the south and include San Juan Grade Road and the general area around Gabilan Acres, an unincorporated community.

Scenic Quality

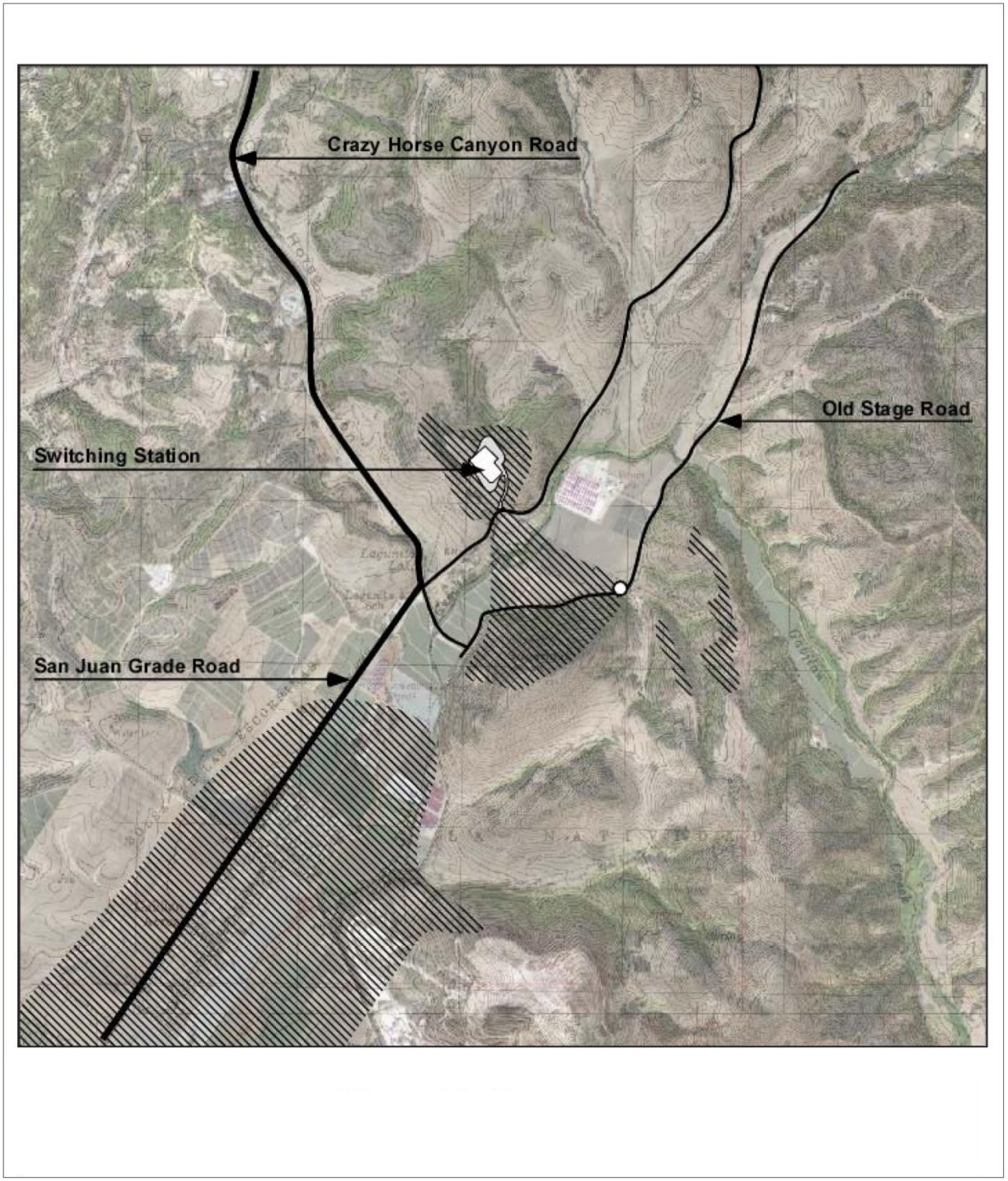
Scenic quality is the relative worth of a landscape from a visual perception point of view (Bureau of Land Management [BLM] 1984). Outstanding scenic quality is a rating reserved for landscapes that would be what a viewer might think of as "picture postcard" landscapes. Landscapes that are considered of low scenic quality are often dominated by visually discordant cultural (manmade) modifications and do not provide views that people would find inviting or interesting (Buhyoff et. al. 1994). The overall scenic quality of the lands surrounding the proposed project area ranges from low to moderate as there are varied combinations of vegetation and landform, but the landscape characteristics and cultural modifications are fairly common in the overall region.

Scenic quality was determined using seven key factors, described as follows:

1. **Landform:** The proposed switching station would be located in the foothills of the Gabilan Range. The proposed switching station site ranges in elevation from approximately 266 feet above msl at San Juan Grade Road to 425 feet above msl near the top of the station pad's cut slopes.
2. **Vegetation:** The vegetation within the project area is visually diverse, creating a relatively wide variety of patterns, forms, and textures. Vegetation includes an oak savanna, oak woodland, chaparral, and riparian woodlands, intermixed with open grasslands. The vegetation in the surrounding areas is also varied but somewhat broader in its overall pattern and includes dense forested areas, large expanses of open chaparral, and agricultural fields. Numerous non-native trees and shrubs are located around residences.
3. **Water:** Water plays a subordinate visual role within the overall project area. Water bodies adjacent to the project area include Lagunita Lake, an unnamed pond along Crazy Horse Canyon Road, and Gabilan Creek.

[1] A cobra-head light fixture includes shielding that focuses lighting downward to reduce the amount of light that affects neighboring properties or that bleeds into the night sky.

Figure 3.1-4: Switching Station Viewshed



4. **Color:** The soils in the project area are predominantly light beige and of sandstone origin. Vegetation color is dominated by olive green to grey-green trees and changing green-to-gold annual non-native grasses. Colors generally range from greenish-gray to green to light brown.
5. **Adjacent Scenery:** The terrain of the surrounding area consists of moderate- to steep-gradient slopes, ridgelines, and singular hills. Sugarloaf Mountain, at 964 feet above msl, is located approximately 0.7 mile south of the proposed switching station.
6. **Scarcity:** The project area and its characteristics are relatively common within the foothills of the Gabilan Mountains.
7. **Cultural (Manmade) Modifications:** Cultural modifications are readily evident throughout the area. The lands surrounding the proposed switching station site are relatively undisturbed with only agricultural fencing present. The dominant cultural modification in the foreground is the existing network of lattice transmission line towers and circuits. Other readily evident modifications include residential structures, barns, outbuildings, equipment storage areas, fences, and gates typically associated with agricultural areas. Regional facilities that affect the viewer experience when traveling along the road network include the closed Crazy Horse Sanitary Landfill and the Graniterock-A.R. Wilson Quarry and Asphalt Plant located off Old Stage Road, approximately 2 miles to the south.

Viewer Sensitivity

Sensitive Viewers

Sensitivity levels are a measure of public concern for scenic quality (FHWA 1988; BLM 1984). Lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern. Factors that affect the level of viewer concern include:

- Type of user
- Amount of use
- Public interest
- Adjacent land uses
- Presence of special management areas such as recreational areas or scenic highways and corridors

Motorists. All roads in the project area are County-maintained. Old Stage Road is identified as an existing scenic route by Monterey County. San Juan Grade Road and Crazy Horse Canyon Road are also recognized by the County for their scenic qualities and are recommended for scenic designation (see Regulatory Setting section below). San Juan Grade Road and Crazy Horse Canyon Road are used by a wide variety of motorists that include local residents and agricultural workers who are familiar with the visual setting, as well as others, such as travelers from US 101 into northern Salinas and recreational users exploring the De Anza Trail. Depending on the day of the week and season of the year, the volume of traffic is relatively light to moderate (see Section 3.16, Traffic and Transportation).

Old Stage Road is narrow and winding. San Juan Grade Road south of the intersection with Crazy Horse Canyon Road has a maximum posted speed of 55 miles per hour (mph).Some areas near

residences located south of the project site have a posted maximum speed of 35 mph. North of the intersection with Crazy Horse Canyon Road and adjacent to the switching station site, San Juan Grade Road becomes narrower with tight turns that require slower travel speeds. The maximum posted traffic speed is also 55 mph on Crazy Horse Canyon Road, north of the San Juan Grade Road intersection. Due to the varying speeds and reasons for travel, motorists overall viewer sensitivity is considered moderate.

Residents. A limited number of residents have homes located off of Crazy Horse Canyon, Old Stage, and San Juan Grade Roads. Four residences are located 0.8 miles north of the proposed project area on Crazy Horse Canyon Road and have views toward the existing transmission lines within the project area. Views of the proposed switching station site from these residences are generally screened by topography. About eight residences, located on the south side of San Juan Grade Road in the project vicinity, also may have views of the project. These residences generally lie at a lower elevation than the roadway and are screened from the road by vegetation and fences. One rural residence along Old Stage Road, approximately 0.6 miles from the site, has foreground views directly north to the proposed switching station site. However, this residence is set back from the roadway and screened by mature vegetation. The sensitivity of residential viewers is considered moderate to high, due to longer view duration.

Key Observation Points

Key Observation Points (KOPs) are locations that provide a critical perspective of the project's visual impacts from area vantage points. They are selected based on their relation to visual resources with varying levels of sensitivity that may be impacted by the proposed project. KOPs typically include locations along roadways and travel corridors, at key vista points, in proximity to residences, and near recreational areas. Figure 3.1-2A shows the locations of the KOPs used in the analysis. A description of the visual quality, viewer concern, viewer exposure, and overall scenic sensitivity is presented in Table 3.1-1.

Table 3.1-1: Description of KOPs

KOP	Description	Scenic Quality	Viewer Sensitivity
KOP #1: Old Stage Road (Figure 3.1-6A)	Located approximately 0.5 mile directly south of the switching station site. Old Stage Road is a winding, two-lane rural road, running along the northern base of Sugarloaf Peak's steep slopes. Because of the topography, views are directed to the north and toward the project area. The KOP represents views that occur along an approximately 0.5-mile segment of the road.	Views from Old Stage Road are sometimes restricted to the immediate foreground by roadside vegetation, but include direct views to numerous rural residential developments located adjacent to the roadway. The landscape is rural in character with farmed lands and agricultural equipment storage and outbuildings dominating the immediate foreground. The undeveloped switching station site is openly visible on the hillside. From this vantage point, existing transmission towers and circuits can be seen in the middle ground. Scenic quality is moderate.	The road provides access to approximately 20 rural residences and various agricultural uses that would be familiar with the existing setting. Viewer sensitivity is moderate.
KOP #2: San Juan Grade Road near Switching Station Entrance (Figure 3.1-6D)	This KOP is located immediately adjacent to the switching station site on the right-hand shoulder of San Juan Grade Road. This KOP is approximately 150 feet away from the proposed entrance to the switching station and 400 feet away from the toe of the switching station fill slope. The KOP affords an unrestricted view to the project site for an approximately 300-foot length of road, looking upward from the road.	San Juan Grade Road is narrow as it winds through the Gabilan Range toward the town of San Juan Bautista. Vegetation along the road is generally dense with open grassland near the project area. Visible modifications include driveways, residences, and transmission towers and circuits. Scenic quality is moderate.	San Juan Grade Road is part of the Juan Bautista de Anza National Historic Trail. The road provides access to local residences, various agricultural uses, and recreational users exploring the De Anza Trail. It terminates in San Juan Bautista. Viewer sensitivity is moderate for motorists, and is moderate to high for adjacent residents.
KOP #3: Intersection of San Juan Grade Road and Crazy Horse Canyon	Located approximately 0.4 mile from the proposed entrance. The intersection is a four-way stop. The intersection includes a pullout for the Battle of Natividad Historic marker.	The Crazy Horse Canyon Road/San Juan Grade Road intersection is a four-way stop. This view encompasses wooded and grass-covered hillside terrain. Roadway signage, lattice transmission line towers and conductors, and wood utility distribution poles dominate the foreground.	San Juan Grade Road is part of the Juan Bautista de Anza National Historic Trail. Motorists passing through the intersection may include local residents and agricultural workers, light commercial truck traffic, travelers

Table 3.1-1: Description of KOPs

KOP	Description	Scenic Quality	Viewer Sensitivity
Road (Figure 3.1-6G)		Transmission structures are seen in the foreground and in the distance. Because of the dominance of signs and utility lines, scenic quality is low.	between US 101 and northern Salinas, and motorists retracing the historic route. Viewer sensitivity is low to moderate.
KOP #4: Crazy Horse Canyon Road (Figure 3.1-6I)	Crazy Horse Canyon Road runs south from US 101, winding downhill through the canyon, and terminating near the project area at the intersection with San Juan Grade Road. The posted speed limit is 55 mph.	Traveling south, the view from the road focuses on Sugarloaf Peak in the middle ground and the Gabilan Range in the background. An unnamed pond and Lagunita Lake are in the foreground with a varied vegetative pattern of grass-covered ridges, riparian, and wetland habitats providing strong visual diversity and interest. Prominent visual features along the road include single-family residences, roadside commercial land uses, the closed Crazy Horse Sanitary Landfill, and overhead conductors and existing transmission structures, which are along the skyline and attract driver attention. Overall scenic quality is moderate.	Motorists using the road may include local residents and agricultural workers, light commercial truck traffic, and others traveling between US 101 and northern Salinas. Viewer sensitivity is low to moderate.
KOP #5: San Juan Grade Road	This section of San Juan Grade Road is a two-lane road leading north from Salinas to an intersection with Crazy Horse Canyon Road. Traveling north, the project area is in the middle ground and almost directly in line with the straight road for over 1.5 miles. Posted speed limits range from 35 to 55 mph adjacent to Gabilan Acres.	The hills of the project area are the backdrop for the view from the road. Foreground uses on either side of the road are dominated by active agriculture, a variety of agricultural structures and storage areas, and the Gabilan Acres subdivision. Scenic quality is low to moderate.	San Juan Grade Road is part of the Juan Bautista de Anza National Historic Trail. Motorists along this section of San Juan Grade Road include local residents and agricultural workers, light commercial truck traffic, travelers between US 101 and northern Salinas, and motorists retracing the historic route. Viewer sensitivity is low to moderate.

Monterey County Zoning Ordinance. Title 21 of the Monterey County Zoning Ordinance, part of the Monterey County Code, provides public policy and guidance with respect to visual quality in inland areas, including the proposed project area. The ordinance includes requirements for protecting visual resources such as oak trees and other native trees, as well as the ridgelines of hills. Ordinances that may affect visual resources are:

> **Section 21.06.1275** defines substantial adverse visual impact as a visual impact which, considering the condition of the existing viewshed and the proximity and duration of view when observed with normal unaided vision, causes an existing visual experience to be materially degraded.
>
> **Section 21.06.950** defines ridgeline development as development on the crest of a hill that has the potential to create a silhouette or other substantially adverse impact when viewed from a common public viewing area.
>
> **Section 21.66.010** sets forth standards for ridgeline development and mandates that a Use Permit is required for ridgeline development, and that such a Use Permit may be approved only if the following finding, based on substantial evidence, can be made: "The ridgeline development, as conditioned by permit, will not create a substantially adverse visual impact when viewed from a common public viewing area." However, Section 21.64.149 allows public utility distribution and transmission line towers and poles, without limitations as to height, without the necessity of first obtaining a Use Permit.
>
> Section 21.64.260 provides regulations for the protection and preservation of oak and other specific types of trees that are considered heritage trees, including those that are visually significant. Relocation or replacement is required on a one-to-one basis.
>
> Chapter 21.46 of the County Zoning Code presents regulations for a Visual Sensitivity (VS) Zoning District. This District is an overlay zone on other zoning classifications. The North County Area Plan *Scenic Highways and Visual Sensitivity Map* indicates the project area is located near, but outside of, these overlay zoning districts.

ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

Impacts

a) Would the project have a substantial adverse effect on a scenic vista?

There are no designated scenic vistas near the project area. The project would have no impact on scenic vistas.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no designated state scenic highways within the viewshed of the project area; therefore, the project would have no impact on scenic resources within a state scenic highway.

Crazy Horse Canyon Road, San Juan Grade Road, and Old Stage Road are each identified in Monterey County area plans as Scenic Routes. The Monterey County Zoning regulations include a VS Zoning District to implement guidelines for maintaining scenic quality related to development. The project area is located outside of this designated overlay zoning district. Impacts to the overall visual character of the landscape as seen from these roads would be less than significant.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

During construction, which is anticipated to take approximately 16 months, the following may be seen throughout the immediate project area and from all KOPs:

- Work crews accessing the project area
- Removal of existing vegetation
- Cut and fill grading necessary to develop project area access roads, the switching station pad, transmission line towers, and all associated layout and staging areas
- Large pieces of equipment used for moving earth; trenching ditches; transporting, lifting, and placing equipment; and hauling concrete; water trucks spraying water to control dust; and assorted construction vehicles
- Helicopter pulling sock lines

The visual impact of these activities would not dominate the overall landscape, but would attract attention to the project area and would distract from the overall quality of the viewshed. Impacts from construction are unavoidable and are generally considered temporary (i.e., less than 5 years

in duration). Fugitive dust from construction may be visible immediately adjacent to the project area.

The impacts of removing oak trees to construct the switching station pad and construct access roads reduce the visual integrity of the exiting landscape. Tree removal is governed by Monterey County Zoning requirements. Grading and use of temporary construction layout areas would visually alter portions of the hillside.

PG&E has included APMs Aesthetics-1 through Aesthetics-5 as part of the project. These APMs include restoring the appearance of disturbed terrain through recontouring and revegetation, and implementing the Conceptual Landscaping Plan included as Figure 3.1-5. Impacts are reduced to less than significant levels with implementation of mitigation measures Aesthetics-6 through Aesthetics-8.

APM Aesthetics-1. Construction activities will be kept as clean and inconspicuous as practical. Where practical, construction storage and staging will be screened from close-range residential views.

APM Aesthetics-2. All disturbed terrain at the switching station site will be restored through recontouring and revegetation using a seed and plant mixture approved by a qualified landscape/ horticultural professional.

APM Aesthetics-3. Project landscaping will screen views of the new facility and help integrate its appearance with the surrounding landscape setting. Project landscaping will involve the installation of informal groupings of native trees and shrubs around the perimeter of the switching station and along San Juan Grade Road in order to provide visual screening.

APM Aesthetics-4. Non-specular conductors will be used to reduce the potential for new sources of glare. A non-reflective finish will be used for switching station equipment to reduce the potential for new sources of glare.

APM Aesthetics-5. The project will incorporate use of an entry gate design to blend in with the existing rural setting found along on San Juan Grade Road and the general project area.

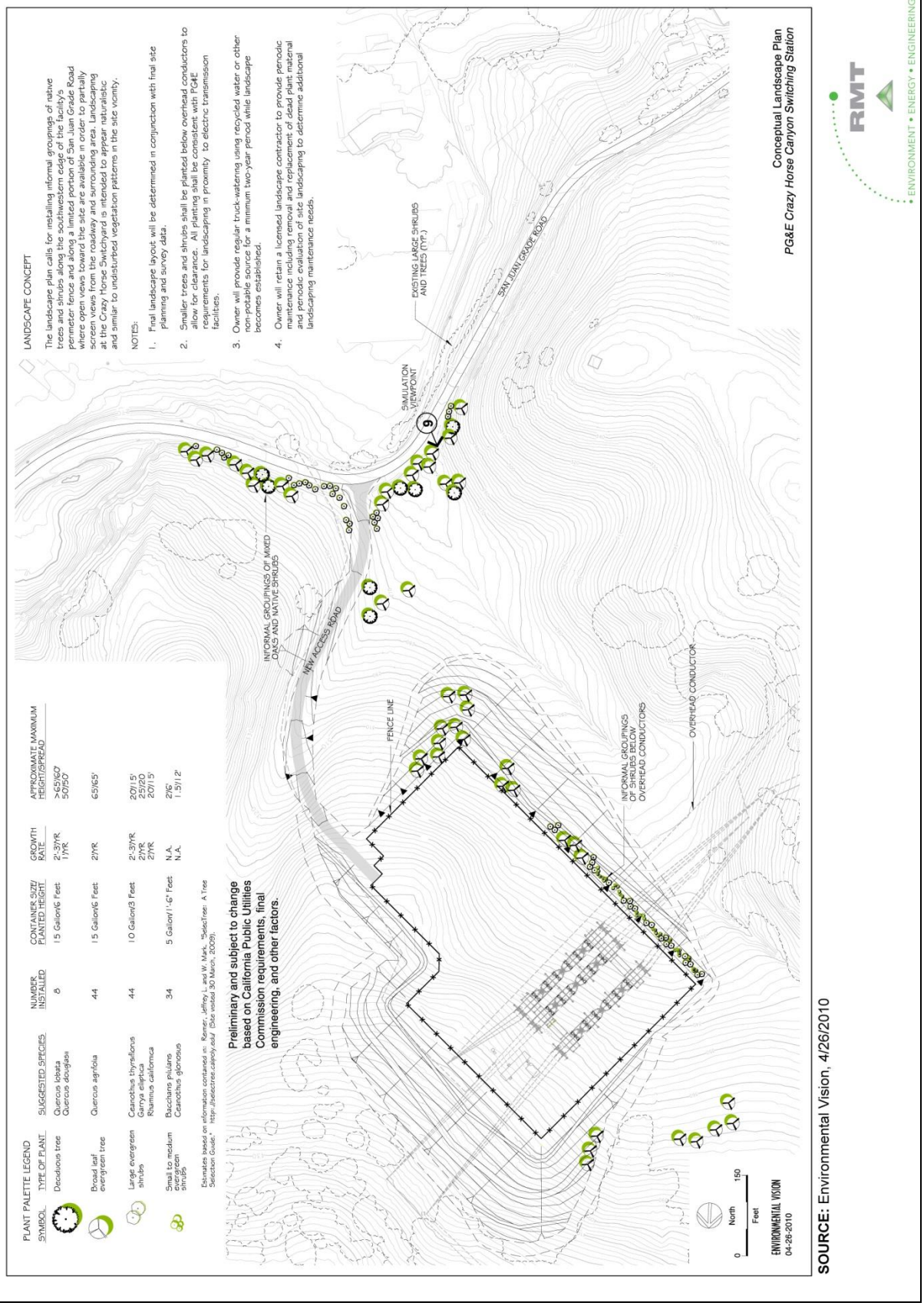
Mitigation Measure Aesthetics-6. PG&E shall implement the following measures to reduce construction-related visual effects as seen from the KOPs and within the immediate surroundings of the project area:

1. Grading and construction limit lines shall be delineated on the ground for all access roads and power line routes.
2. Construction equipment shall be removed from the project area when no longer needed.
3. All ground disturbances caused by construction, staging, and temporary access road construction shall be restored and revegetated at the earliest feasible time.

Mitigation Measure Aesthetics-7. PG&E shall use the following method to promote healthy revegetation of slopes constructed for the entrance road and switching station to reduce visual contrast:

1. In areas to be graded, all topsoil up to a depth of 1 foot shall be removed, stockpiled, and used as a final fill layer on constructed slopes.

Figure 3.1-5: Conceptual Landscape Plan



SOURCE: Environmental Vision, 4/26/2010

Mitigation Measure Aesthetics-8. PG&E shall prepare and submit to Monterey County for review a full set of plans and specifications based on the Conceptual Landscape Plan presented on Figure 3.1-5, with the following additions and/or changes to the plan recommendations:

1. The planting design shall emphasize visual screening of the switching station and related facilities as seen from San Juan Grade Road or Old Stage Road and take into consideration biological mitigation measures.
2. New trees and shrubs to be installed at the site shall be locally grown, to the extent feasible. New plant material may include nursery grown stock and, if feasible, propagules locally collected and grown to a maximum dee-pot or tree-pot container size. Tree and shrub planting shall occur in fall or early winter when the rainy season has commenced.

Operation and Maintenance

The power line portions of the project may be seen from Crazy Horse Canyon Road, San Juan Grade Road west of the intersection with Crazy Horse Canyon Road, San Juan Grade Road immediately adjacent to the switching station, and intermittently along a 0.5-mile portion of Old Stage Road. Figure 3.1-4 illustrates the viewsheds of the switching station.

Long-term visual changes resulting from the introduction of materials and colors associated with project facilities, as well as the changes in vegetation and earth forms necessary to construct the switching station pad and access roads, would be visible from limited areas. As seen from affected viewpoints, the conceptual planting design provided in Figure 3.1-5 would reduce visibility of the switching station and other nearby facilities within 8 to 10 years after construction.

KOP Summary. Figures 3.1-6A through Figure 3.1-6F present photo simulations of individual views from KOP #1 and KOP #2 immediately after project construction and after approximately an 8 to 10-year period. The photo simulations incorporate the proposed landscape plantings. Figures 3.1-6G through Figure 3.1-6J present photo simulations that depict individual views of the reconfigured transmission line towers, poles, and circuits as seen from KOP #3 and KOP #4 immediately after project construction.

Not shown in the simulations of the switching station are PG&E's potential equipment storage areas near the south edge of the fencing, concrete-lined drainage ditches along the slopes and its perimeter, and drainage system energy dissipater structures and rip-rap.

KOP #1: Old Stage Road. The switching station would be visible from KOP #1 in the foreground view as seen from Old Stage Road. The constructed switching station pad, related cut and fill slopes, and switching station facilities would be readily discernible and would contrast with the existing characteristic landscape in terms of the basic visual characteristics of line, color, and texture; however, existing vegetation would provide screening of these elements from nearby residences. The horizontal leading edge at the top of the switching station fill slope would visually contrast with the rolling lines in the characteristic landscape.

APM Aesthetics-2 and mitigation measure Aesthetics-8 would visually blend slopes and soften the lines created by grading of the switching station pad with those of the surrounding undisturbed landscape. Over an approximately 5- to 10-year period, shrubs and tree plantings, as required in

Figure 3.1-6A: Photo from Key Observation Point 1

SOURCE: Environmental Vision 2010

KOP #1. View looking north from Old Stage Road to switching station site. Date of Photograph 7/12/10.

RMT

ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6B: Photo Simulation from Key Observation Point 1 Immediately Following Construction

SOURCE: Environmental Vision 2010

KOP #1. Photo simulation of switching station as seen from Old Stage Road immediately after construction (simulation by Environmental Vision).

RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6C: Photo Simulation from Key Observation Point 1 Approximately 15 to 20 Years After Construction

SOURCE: Environmental Vision 2010

KOP #1. Photo simulation photo simulation of switching station as seen from Old Stage Road approximately 15 to 20 years after construction (simulation by Environmental Vision).

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6D: Photo from Key Observation Point 2

SOURCE: Environmental Vision 2010

KOP #2. View looking north from San Juan Grade Road to switching station site.

RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6E: Photo Simulation from Key Observation Point 2 Immediately Following Construction

SOURCE: Environmental Vision 2010

KOP #2. Photo simulation of switching station as seen from San Juan Grade Road immediately after construction (simulation by Environmental Vision).

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6F: Photo Simulation from Key Observation Point 2 Approximately 15 to 20 Years After Construction

SOURCE: Environmental Vision 2010

KOP #2. Photo simulation of switching station as seen from San Juan Grade Road approximately 15 to 20 years after construction (simulation by Environmental Vision).

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6G: Photo from Key Observation Point 3

SOURCE: Environmental Vision 2010

KOP #3. View looking north from intersection of San Juan Grade Road and Crazy Horse Canyon Road. Date of Photograph 7/12/10.

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6H: Photo Simulation from Key Observation Point 3 Immediately Following Construction

SOURCE: Environmental Vision 2010

KOP #3. Photo simulation of transmission towers as seen from intersection of Crazy Horse Canyon Road and San Juan Grade Road immediately after construction (simulation by Environmental Vision).

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6I: Photo from Key Observation Point 4

SOURCE: Environmental Vision 2010

KOP #4. View looking southeast from Crazy Horse Canyon Road. Date of Photograph 7/12/10.

RMT ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.1-6J: Photo Simulation from Key Observation Point 4 Immediately Following Construction

APM Aesthetic-3 and mitigation measure Aesthetics-8, would either screen or break up the visible elements of the switching station such that they would not be a prominent feature in the agricultural/rural landscape setting, reducing impacts to a less than significant level.

The addition of new lattice towers, tubular steel poles, and associated circuits would add to and reposition the pattern of existing poles and circuits already within view. The majority of new poles and circuits follow ridgelines and, thus, would be positioned along the skyline as seen from Old Stage Road. Although additional towers and circuits would be visible, the additional towers and circuits would not significantly alter the overall effect created by existing towers, poles, and circuits now visible within the landscape. Impacts from KOP #1 would be less than significant.

KOP #2: San Juan Grade Road near Switching Station Entrance. The entrance from San Juan Grade Road, the entrance road, switching station pad, and related switching station facilities would be visible briefly in the immediate foreground and could be a dominant feature of the landscape when seen traveling north on San Juan Grade Road. The switching station would not be a dominant visual feature for motorists traveling south on San Juan Grade Road.

As with views from Old Stage Road, APM Aesthetics-2 and mitigation measure Aesthetics-8 would visually blend slopes and soften the lines created by grading of the switching station pad with those of the surrounding undisturbed landscape. Over an approximately 5- to 10-year period, appropriately positioned shrubs and tree plantings, as called for in APM Aesthetic-3 and mitigation measure Aesthetics-8, would either screen or break up the visible elements of the switching station such that they would not be a prominent feature in the agricultural/rural landscape setting, reducing impacts to a less than significant level.

Two new lattice towers and two new tubular steel poles and associated circuits would extend above the existing tree canopy and be visible briefly on the skyline immediately above the switching station. As at KOP #1, the additional towers and circuits north of the switching station would add to and reposition the pattern of existing poles and circuits already within view. However, given its limited potential visibility from a small portion of San Juan Grade Road (the site can only be seen briefly while driving around a relatively sharp curve) and in light of the presence of existing transmission structures in the immediate area as seen from San Juan Grade Road, the impact would be less than significant.

KOP #3: Intersection of San Juan Grade Road and Crazy Horse Canyon Road, and KOP #4: Crazy Horse Canyon Road. The switching station and entrance road would not be visible from KOP #3 or KOP #4 due to intervening topography.

The addition of new lattice towers, tubular steel poles, and associated circuits would add to and reposition the pattern of existing poles and circuits already within view. Although additional towers and circuits would be visible, the additional towers and circuits would not significantly alter the existing visual effect created by existing towers, poles, and circuits currently visible within the landscape. Visual impacts from KOP #3 and KOP #4 would be less than significant.

KOP #5: San Juan Grade Road. Upper portions of cut slopes and of station facilities would be visible in the middle-ground and background views when traveling northeast along San Juan

Grade Road. The closest view to the upper portions of the cut slopes as seen from this part of San Juan Grade Road would be approximately 1.2 miles from the switching station.

With implementation of APM Aesthetics-2, which calls for restoring the appearance of disturbed areas through recontouring and revegetation, the project, including constructed slopes, would be barely discernable given the viewing distance. In light of the project's limited degree of visibility within the overall landscape setting, the impact on this San Juan Grade view would be less than significant.

d) Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction

Construction hours would be from 7 a.m. to 7 p.m., Monday through Saturday. Depending on the time of the year, there may be lighting associated with work crews traveling to and from the project area in their vehicles and with daily start-up or close-down activities associated with daily construction activities. No temporary construction lighting is proposed unless nighttime work is needed due to clearance restrictions on the power line. In such cases, PG&E would contact nearby residences to inform them of the work schedule and of possible use of nighttime lighting. The visual impacts of these activities are unavoidable, but are also temporary and would occur infrequently. The visual impacts of construction lighting would, therefore, be less than significant.

Operation and Maintenance

Lighting associated with the switching station would create a new source of light that would be visible and could reduce the contrast and visibility of the night sky.

PG&E proposes to use non-glare sodium vapor lamps for security lighting, and to locate and design such lamps to avoid casting light or glare toward off-site locations; however, impacts could still be significant.

Implementation of mitigation measure Aesthetics-9 would reduce the visual impacts of lighting associated with project operation and maintenance to a less than significant level.

> **Mitigation Measure Aesthetics-9.** To minimize the effects of security lighting from operation of the switching station, the following measure shall be implemented:
>
> Any lighting shall be shielded using full cut-off fixtures conforming to the Illuminating Engineering Society of North America (IESNA) definition such that all light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal.

The project would also have the potential to add glare to the surrounding area. PG&E proposes to use non-specular conductors and a non-reflective finish on all switching station equipment (as required by APM Aesthetics-4) to reduce impacts from glare to a less than significant level.

This page is intentionally left blank

3.2 Agricultural Resources

3.2.1 ENVIRONMENTAL SETTING

Regional

Monterey County had over 1.3 million acres of designated agricultural land in 2006 (California Resources Agency Department of Conservation [CDC] 2009). Agriculture represents about 69 percent of the land use in the North County Planning Area (Monterey County 1985), in the project region.

Local

The Farmland Mapping and Monitoring Program (FMMP) of the CDC rates land according to soil quality and irrigation status. The entire project area is located on land classified as grazing land, which the FMMP defines as "land on which the existing vegetation is suited to the grazing of livestock" (CDC 2008).

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. The entire project area is located on lands subject to a Williamson Act contract; however, CPUC-approved facilities are considered an acceptable use consistent with the requirements of Government Code Section 51290 et. seq.

3.2.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	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?*	☐	☐	☐	☒
b) *Conflict with existing zoning for agricultural use or a Williamson Act contract?*	☐	☐	☐	☒
c) *Involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use?*	☐	☐	☒	☐

Impacts

a) Would the project 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?

The project area is not located on lands designated by the FMMP as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; therefore, the project would not convert any of these lands to non-agricultural use, and no impact would occur.

b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

The entire project area is located on lands subject to a Williamson Act contract. However, CPUC-approved facilities are considered an acceptable use consistent with the requirements of Government Code Section 51290 et. seq. The project would also be consistent with local zoning for agricultural use. The project would have no impact on zoning for agricultural use or Williamson Act contracts.

c) Would the project involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use?

Construction

The entire project is located on land classified by the FMMP as grazing land. Construction of the project would convert approximately 25 acres of grazing land to non-agricultural use. An estimated 13.7 acres of the 25 acres would be returned to grazing use once construction is complete. Permanent conversion of the remaining 12.2 acres to non-agricultural use would be necessary to accommodate the switching station and supporting structures. Construction of the project would permanently convert a very small portion of farmland within the County (i.e., 0.0009 percent) to non-agricultural use. The project site has been used for grazing in the recent past, and it is anticipated that grazing activities would continue after project completion. Impacts would be less than significant.

Operation and Maintenance

Operation and maintenance activities would include routine monthly inspections or as needed under emergency conditions, and would not result in the conversion of Farmland to non-agricultural use, beyond the permanent conversion of 12.2 acres to non-agricultural use for the facilities. No impact would occur.

3.3 Air Quality

3.3.1 ENVIRONMENTAL SETTING

Air Basin

The proposed project site is located within the North Central Coast Air Basin (NCCAB), which is adjacent to the Pacific Ocean and includes Monterey, Santa Cruz, and San Benito Counties. Air quality in Monterey County is regulated by the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the Monterey County Unified Air Pollution Control District (MCUAPCD). These agencies develop rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

Climate and Meteorology

A semi-permanent high-pressure cell in the eastern Pacific (known as the "Pacific High") controls the climate of the NCCAB. In the summer, the high-pressure cell causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over cool coastal air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The temperature inversion inhibits vertical air movement (MCUAPCD 2008).

During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air typically flows to the southeast out of the Salinas and San Benito valleys, especially during night and morning hours. Northwest winds are still dominant in winter, but easterly flow is more common. The general absence of deep, persistent inversions and the occurrence of occasional storms usually results in overall good air quality in the NCCAB in winter and early spring (MCUAPCD 2008).

Ambient Air Quality

Three air quality designations can be assigned to an area for a particular pollutant under both state and federal standards:

- Non-attainment: This designation applies when air quality standards have not been consistently achieved.
- Attainment: This designation applies when air quality standards have been achieved.
- Unclassified: This designation applies when there are not enough monitoring data to determine if the area is non-attainment or attainment.

According to the CARB State Ambient Air Quality Standards (AAQS), the NCCAB is designated non-attainment for ozone (O_3) and particulate matter less than 10 microns in size (PM_{10}). Reactive organic gases (ROG) and nitrogen oxides (NOx) are precursors to ozone. The NCCAB is designated attainment for nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter ($PM_{2.5}$), hydrogen sulfide (H_2S), sulfate particulates, visibility-reducing particles, and lead (Pb) particulates. MCUAPCD is the state-level regulatory body responsible for air quality in the NCCAB.

By federal standards, the NCCAB is designated as unclassified or attainment for all criteria pollutants. The NCCAB is unclassified for the federal 8-hour O_3 standard, the quarterly Pb standard, the 24-hour PM_{10} standard, and both particulate matter less than 2.5 microns in size ($PM_{2.5}$) standards (MCUAPCD 2009). Table 3.3-1 lists the California and federal air quality standards.

Vehicular emissions, industrial emissions, and high ambient temperatures in urban areas of the NCCAB contribute to summertime O_3 generation and subsequent air standard violations. PM_{10} is generated within the project area largely as a result of combustion sources and wind during dry conditions, resulting in fugitive dust.

CARB operates a network of ambient air quality monitoring stations that measure concentrations of many of the regulated criteria pollutants. Data from the nearest monitoring station on East Laurel Drive in the City of Salinas were used to determine the existing ambient air quality for the project area. Measured 8-hour O_3 concentrations did not exceed the state ambient standard in 2006, 2007, or 2008. The 24-hour PM_{10} concentration was exceeded once in 2006 and twice in 2008 (MCUAPCD 2006, 2007, and 2008).

The MCUAPCD CEQA Air Quality Guidelines include a threshold of significance for project environmental impacts resulting from construction. For air quality impacts, concentrations of PM_{10} are significant if they exceed 82 pounds per day (lb/day) (MCUAPCD 2008).

MCUAPCD has also published thresholds of significance for project environmental impacts resulting from project operation. For air quality impacts, concentrations of air emissions are significant if they:

- Violate any AAQS, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations
- Emit more than 137 lb/day of volatile organic compounds
- Emit more than 137 lb/day of nitrogen oxides as NO2
- Emit more than 82 lb/day of PM10
- Emit more than 550 lb/day of CO (direct emissions)
- Emit more than 150 lb/day of sulfur oxides as SO_2 (direct emissions)

The federal government, the State of California, and MCUAPCD do not currently designate attainment status for ambient greenhouse gas (GHG) concentrations. GHGs are addressed in Section 3.4.

Toxic Air Contaminants

Toxic air contaminants are air pollutants that may cause adverse health effects, particularly cancer or reproductive harm. The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588) was enacted in September 1987. The project would not be considered a stationary source subject to AB 2588 requirements.

Table 3.3-1: California and Federal Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		0.100 ppm (see footnote 8)	None	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead[9]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[10]	—		0.15 µg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Table 3.3-1 *(Continued)*: California and Federal Air Quality Standards

NOTES:

1. California standards for O_3, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, and suspended particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than O_3, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-our standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA: An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
9. The ARB has identified Pb and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
10. National Pb standard, rolling 3-month average: final rule signed October 15, 2008.

ABBREVIATIONS:

$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million

SOURCE: CARB 2010

Sensitive Receptors

Sensitive receptors include children, seniors, sick persons, or people subject to continuous exposure based on the averaging period for the pollutant. Sensitive receptor locations are facilities such as hospitals, schools, convalescent facilities, or residential areas. The closest sensitive

receptors, including several residences and a school, are located within 1,400 to 3,500 feet of the project area

3.3.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Impacts

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

MCUAPCD periodically prepares and updates plans to achieve ambient air quality goals. These plans usually include measures to reduce air pollution emissions from industrial, area, mobile, and other sources. This type of project is not addressed in these plans. Construction and operation of this project would have no impact on implementation of applicable air quality plans.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction

PM_{10} would be the primary air pollutant emitted from construction activities. In addition to PM_{10}, there would be pollutants associated with equipment usage and with vehicular emissions from transporting workers, equipment, and supplies. The cumulative estimated construction emissions are presented in Table 3.3-2. The total construction emissions of PM_{10} are not anticipated to exceed 63 lb/day, which is less than the threshold of significance of 82 lb/day. Therefore, construction impacts from PM_{10} would be less than significant.

Section 8 of the MCUAPCD Air Quality CEQA Guidelines (2008), titled "Mitigation Measures," identifies appropriate measures to reduce construction emissions. The applicant has identified APM Air Quality-1, which includes the MCUAPCD fugitive dust control measures. APM Air Quality-1 would be implemented during construction. . Fugitive dust emissions would not result in violation of any air quality standards.

APM Air Quality-1. PG&E will implement the following feasible mitigation measures from Table 8-2 of the MCUAPCD Air Quality CEQA Guidelines to reduce air quality impacts associated with PM_{10}:

1. Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure.
2. Suspend all grading activities during periods of high wind (over 15 miles per hour (mph)).
3. Apply chemical soil stabilizer on inactive construction areas (defined as disturbed lands within the project area that are unused for at least four consecutive days).
4. Apply non-toxic soil binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area.
5. Cover all trucks hauling dirt, sand or loose materials.
6. Plant vegetative ground cover in disturbed areas as soon as possible.
7. Cover inactive storage piles.
8. Install wheel washers at the entrance to construction sites for all exiting trucks.
9. Sweep public roads if visible soil material is carried out from the construction site.
10. Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours.
11. The phone number of the Monterey Bay Unified Air Pollution Control District (MCUAPCD) shall be visible to ensure compliance with Rule 402 (nuisance).
12. Limit the area of earth disturbing activities at any one time.

Table 3.3-2: Summary of Construction Emissions

Emission	Year 1 – 2011 (avg lb/day)	Year 2 – 2012 (avg lb/day)	Year 3 – 2013 (avg lb/day)	Maximum Daily (lb/day)	MCUAPCD Significance Threshold (lb/day)
ROG	5.55	8.22	1.55	15.3	--
CO	14.00	46.41	5.25	93.8	--
NO_x	34.62	62.21	10.56	123.4	--
SO_2	0.07	1.49	0.02	2.8	--
Exhaust PM_{10}	1.55	3.03	1.88	6.2	--
Fugitive PM_{10}	21.54	31.02	7.53	62.9	82
$PM_{2.5}$	1.37	2.68	1.67	5.5	--

SOURCE: TRC 2010

Operation and Maintenance

Operation of the switching station would not result in emission of any criteria pollutants. The station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of vehicular emissions associated with regular commuting to and from the site. Vehicular emissions associated with maintenance and repair of the switching station and associated power lines would be the only sources of emissions during operation. As shown in Table 3.3-3, using an estimated total of 250 vehicle miles a month (both light-duty and heavy-duty trucks) for switching station maintenance and repairs, the total emissions during operation would be considerably less than the maximum emission thresholds (in lb/day) for ROG, CO, NO_2, SO_2, and PM_{10}.

Table 3.3-3: Operations Emissions Estimates

Activity and Equipment	Estimated Emissions (lb/day)				
	ROG	*CO*	*NO_2*	*SO_2*	*PM_{10}*
Light-Duty Truck (200 miles per month)	0.006	0.102	0.017	0.001	0.009
Heavy-Duty Truck (50 miles per month)	0.003	0.057	0.006	0.000	0.002
Switching Station Operation Total	**0.06**	**1.13**	**0.25**	**0.14**	**0.17**
MCUAPCD Significance Threshold	137	550	137	150	82

SOURCE: TRC 2010

c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Construction

The project would emit ozone precursors (NO_x and ROG) for which the project area is in non-attainment by state standards. Ozone precursor emissions would result from fuel combustion during operation of construction equipment. According to the MBCUAPCD CEQA Guidelines, these emissions are accommodated in the emissions inventories of state and federally mandated air quality plans and would not have a significant impact on the attainment and maintenance of ozone ambient air quality standards.

The project area is also in non-attainment of state standards for PM_{10}. Fugitive PM_{10} emissions would be minimized with the implementation of APM Air Quality-1 and would be less than emissions thresholds. Impacts to air quality would be less than significant.

Operation and Maintenance

Operation of the switching station would not result in emission of criteria air pollutants. The station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, therefore only minimal vehicular emissions associated with travel to and from the switching station site would be generated. Vehicular emissions associated with maintenance and repair activities would be less than the MCUAPCD significance thresholds (Table 3.3-3). Impacts would be less than significant.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

The sensitive receptors in the project area consist of Lagunita School, approximately 3,500 feet southwest of the proposed project site, and four residences on the south side of San Juan Grade Road, approximately 1,400 feet from the proposed project site. The distance from the project area to these receptors, their upwind location (based on prevailing winds), the less than significant emissions levels, and implementation of APMs Air Quality-1 and GHG-1 would result in a less than significant impact to these sensitive receptors.

e) Would the project create objectionable odors affecting a substantial number of people?

No objectionable odors would be generated from project construction or operation activities; therefore, no odor impacts are anticipated.

3.4 Greenhouse Gases

3.4.1 ENVIRONMENTAL SETTING

Greenhouse Gases

GHGs are generally defined as carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6). GHG emissions are generally expressed in units of carbon dioxide equivalent (CO_2e where $CO_2 = 1$). Concentrations of the gases are converted into CO_2e according to their global warming potential.

Ambient global temperatures rise as atmospheric concentrations of GHGs increase because less heat is able to escape the atmosphere. The rise in temperature is accompanied by climatic changes, some dramatic and some subtle, that affect how organisms live, adapt, and survive. Potential effects of an increase in global temperatures can include winter flooding, summer droughts, drier growing seasons resulting in agricultural losses, changes in fish stock and other wildlife, changes in sea level, increased frequency and intensity of forest wildfires, and damage to coastlines due to severe weather events.

Greenhouse Gas Regulations

AB 32

The State of California adopted the Global Warming Solutions Act of 2006 (AB 32) on September 27, 2006, to address the threat of global warming caused by the increase in GHG emissions.

AB 32 requires sources within the state to reduce carbon emissions to 1990 levels by the year 2020. The 1990 CO_2e emissions are estimated to be 427 million metric tons. CARB has predicted that CO_2e emissions would be 596.4 million metric tons in 2020 if no actions are taken to reduce GHG emissions (California Climate Change Portal 2009). Emission sources in the state would need to reduce emissions by approximately 28 percent (169 million tons) before 2020 to reach this goal. Based on the CARB inventory, primary sources of GHG emissions include on-road transportation, electrical power generation, and industrial facilities (CARB 2008). Projects similar to the Crazy Horse Canyon Switching Station Project have not been identified as large or significant sources of GHG emissions.

California Air Resources Board

CARB recently developed mandatory reporting rules for significant sources of GHGs based on the requirements of AB 32 (Subchapter 10, Article 1, sections 95100 to 95133, Title 17, California Code of Regulations). CARB released a Proposed Scoping Plan in October 2008, which was approved as the Climate Change Scoping Plan on December 12, 2008. The plan proposes how GHG emission reductions could be achieved from significant GHG sources, and outlines regulations to achieve maximum technologically feasible and cost-effective GHG emission reductions. The approved scoping plan has a new statewide goal to include 33 percent renewable energy, rather than 20 percent as outlined in AB 32, in the State of California's energy portfolio by 2020. Actions outlined in the plan are recommendations, not mandates. The scoping plan also has information regarding voluntary actions to reduce GHG emissions. CARB is required to draft regulations that would encourage early action in reducing GHG emissions. The regulations would reward reductions occurring before AB 32 is fully implemented. There are also voluntary offset markets,

and CARB will adopt methodologies for quantifying voluntary reductions (CARB 2010). Scoping Plan Measure H-6 for Sulfur Hexafluoride Emissions Reductions from the Electricity Sector was approved in February 2010 with an implementation date of 2011, and would apply to this project.

CARB has proposed draft regulations in addition to those in the Scoping Plan to limit GHG emissions from electrical power plants and other specific source categories. The proposed regulations do not include construction-related sources such as the installation of switching stations. This source type is also not subject to mandatory GHG emissions reporting. Thus, this project is not currently subject to any state regulatory requirements for greenhouse gases. Nevertheless, the GHG emissions from this project were estimated and several measures to reduce project-related GHG emissions were reviewed for feasibility.

The significance of project-related GHG impacts was evaluated using the October 24, 2008, CARB Preliminary Draft Staff Proposal for setting significance thresholds for GHGs (CARB 2008). CARB has proposed significance thresholds for industrial and residential/commercial projects; however, no significance thresholds for construction have been established. The proposal suggests a quantitative threshold of 7,000 metric tons CO_2e per year for operational emissions (excluding transportation) for industrial projects.

North Central Coast Air Basin

MCUAPCD currently has no regulatory requirements for GHG emissions or guidance concerning CEQA evaluation of GHG emissions in the NCCAB.

Existing Sources of GHGs in Monterey County

Monterey County GHG emissions estimates for 2006 are tabulated in Table 3.4-1.

Table 3.4-1: 2006 Monterey County Greenhouse Gas Emissions Estimates

Source Category	Total Emissions (metric tons CO_2e per year)		
	GHG Emissions	Percent of Total	Notes
Vehicle Emissions	647,175	47	Includes miles on County roads and 25 percent of state highway miles
Natural Gas Consumption	190,848	14	Residential, commercial, and industrial consumption
Electricity Consumption	209,103	15	Residential, commercial, and industrial consumption
Industrial Processes	201,290	14	Based on MCUAPCD inventory data
Landfill Emissions	32,829	2	Based on California Integrated Waste Management Board (CIWMB) data
Agricultural Equipment Field Use	113,159	8	Based on farm acreage and state averages
Total	**1,394,404**	**100**	

SOURCE: Monterey County 2008

3.4.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emission of greenhouse gases?	☐	☐	☒	☐

Impacts

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

Project construction would result in emission of GHGs from on-site construction equipment and off-site worker trips. Anticipated GHG emissions were calculated for all construction-related activities. Results of the detailed construction GHG emission calculations are presented in Appendix B.

Estimated construction-phase, unmitigated emissions of GHGs (CO_2) are provided in Table 3.4-2. Annual CO_2 emissions from construction activities would be approximately 213 metric tons per year in 2011, 660 metric tons per year in 2012, and 17 metric tons per year in 2013. The project includes APM GHG-1, which encourages carpooling to the project area, and require minimizing construction vehicle idling time, using low-emission construction equipment, minimizing welding and cutting activities, encouraging the use of natural gas-powered vehicles, and encouraging the recycling of construction waste, and would reduce GHG emissions from construction to a less than significant level. GHG emissions could be reduced to approximately 183 metric tons per year in 2011, 560 metric tons per year in 2012, and 14 metric tons per year in 2013 with implementation of APM GHG-1 (Table 3.4-2).

Table 3.4-2: Summary of Estimated Construction-Phase CO_2 Emissions

Construction Phase	CO_2 (metric tons)	CO_2 with APM GHG-1 Implemented (metric tons)
Site Grading – July 2011-October 2011	140	120
Foundation Construction – November 2011-March 2012	182	157
Station Construction – June 2012-September 2012	266	220
Line and Tower Modification – June 2012-December 2012	284	245
Post-Construction Activities – January 2013-February 2013	17	14
Total tons, 2011	213	183
Total tons, 2012	660	560
Total tons, 2013	17	14
Total tons for Project	890	757

Note:
Implementation of APM GHG-1 was assumed to reduce emissions from construction equipment, construction vehicles, and worker commutes by approximately 15 percent.

SOURCE: TRC 2010

APM GHG-1. PG&E will implement the following measures to address GHG emissions:

1. Identify park-and-ride facilities in the project vicinity and encourage construction workers to carpool to the job staging area to the extent feasible. The ability to develop an effective carpool program for the proposed project will depend upon the proximity of carpool facilities to the staging area, the geographical commute departure points of construction workers, and the extent to which carpooling will not adversely affect worker arrival time and the project's construction schedule.
2. Minimize unnecessary idling time – less than the 5-minute maximum idling required by law – through application of a "common sense" approach to vehicle use. If a vehicle is not required immediately or continuously for construction activities, its engine will be shut off. Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by

California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.

3. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the California Air Resources Board (CARB) Statewide Portable Equipment Registration Program, or will meet at a minimum U.S. Environmental Protection Agency (EPA)/CARB Tier 1 engine standards. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program, or will meet at a minimum USEPA/CARB Tier 1 engine standards.
4. Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
5. Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.
6. Encourage the recycling of construction waste where feasible.

CARB's Preliminary Draft Staff Proposal does not include a significance threshold for GHG emissions from construction, but presumes there would be a less than significant impact if interim CARB performance standards are implemented. The MCUAPCD has not developed a threshold of significance for GHG emissions. The GHG emissions generated during construction of the project would, therefore, be less than significant.

Operation and Maintenance

Emissions generated by the project would be limited to maintenance traffic and SF_6 process losses from switching equipment. The CARB standard is 7,000 metric tons/year CO_2e for the operation of industrial projects. Project operation would produce emissions well below this threshold. As shown in Table 3.4-3, the estimated GHG emissions during operation would be approximately 32.2 metric tons/year CO_2e.

Table 3.4-3: Summary of Estimated Operation-Phase Greenhouse Gas Emissions

Activity and Equipment	Emissions (metric tons/year CO_2e)			
	CO_2	CH_4	N_2O	SF_6
SF_6 Process Loss	--	--	--	29.9
Light-Duty Truck (200 miles per month)	1.41	0.001	0.008	--
Heavy-Duty Truck (50 miles per month)	0.91	0.001	0.003	--
Switching Station Operation Total	2.32	0.002	0.011	29.9

SOURCE: TRC 2010

The applicant has identified APM GHG-2, which includes measures to avoid and minimize SF_6 emissions. These measures include incorporating the project into PG&E's SF_6 emissions reduction program, requiring a manufacturer's guaranteed leakage rate for the breakers of less than 0.5 percent per year, maintaining substation breakers, and complying with CARB Early Action Measures. PG&E also would continue to implement the company-wide actions described in APM GHG-3. Implementation of APMs GHG-2 and GHG-3 would reduce project operation impacts on GHG emissions to a less than significant level.

APM GHG-2. To further avoid and minimize potential SF_6 emissions, PG&E will incorporate the following measures:

1. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF_6 emission reduction program. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF_6 emission reduction program. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor SF_6 leakage rates in order to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of EPA's SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak rate by 89 percent and absolute SF_6 emissions by 83 percent.
2. Require that Crazy Horse Canyon Switching Station's breakers have a manufacturer's guaranteed leakage rate of 0.5 percent per year or less for SF_6.
3. Maintain substation breakers in accordance with PG&E's maintenance guidelines.
4. Comply with California Air Resources Board Early Action Measures as these policies become effective.

APM GHG-3. In addition to these measures, PG&E is implementing the following voluntary company-wide actions to further reduce GHG emissions:

1. Pacific Gas & Electric Company supports the Natural Gas STAR, a program promoting the reduction of methane from natural gas pipeline operations. Since 1998, PG&E has avoided the release of thousands of tons of methane.
2. In June 2007, PG&E launched the ClimateSmart program, a voluntary greenhouse gas (GHG) emissions reduction program that allows its customers to balance out the GHG emissions produced by the energy they use, making their energy use "climate neutral." For ClimateSmart customers, PG&E calculates the amount needed to fund sufficient GHG emissions reduction projects in California to make their energy use "climate neutral." This is added to the customer's monthly energy bill and is tax deductable.
3. Pacific Gas & Electric Company is offsetting all of the GHG emissions associated with energy used in PG&E's buildings by participating in its ClimateSmart program. In 2007, this amounted to over 50,000 tons of CO_2 reductions.

4. California Air Resources Board plans to adopt AB-32 Early Action Measures to reduce GHG emissions. PG&E will implement the appropriate Early Action Measures as they become effective.

In order to further minimize already less-than-significant GHG impacts resulting from project operations, PG&E will implement as feasible the following GHG reduction measures identified in Section 6.4 of the CPUC PEA Checklist for Transmission Line and Substation Projects: 1) the use of energy efficient design for substation buildings; and 2) periodic energy efficiency and GHG emissions audits.

b) Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emission of greenhouse gases?

The Climate Change Scoping Plan provides an outline of actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHG emissions. The MCUAPCD currently has no regulatory requirements for GHG emissions. Therefore, there currently are no applicable plans, mandatory GHG regulations, or finalized agency guidelines that would apply to this project. The project would be in compliance with the AB 32 goal of reducing GHG emissions to 1990 levels by 2020, and construction and operation activities would result in a less than significant impact.

This page is intentionally left blank

3.5 Biological Resources

3.5.1 ENVIRONMENTAL SETTING

Introduction

Plant community mapping was conducted concurrent with a general biological reconnaissance survey in July 2008, October 2009, and March 2010; a wetland delineation was conducted in October 2009; and rare plant surveys were conducted in March and May 2010 (TRC 2010b, 2010c, and 2010e). The purpose of the surveys was to identify and map potential habitat for sensitive biological resources, including special-status plant and wildlife species and sensitive natural communities. Plant communities and habitats were mapped within 500-foot buffers centered on the switching station site, grade and fill areas, and the proposed access road.

Unless otherwise noted, information presented below is summarized from the following technical biological reports:

- California Burrowing Owl Report (TRC 2010a)
- Delineation of Waters of the United States and Rapanos Analysis (TRC 2010b)
- General Biological Reconnaissance and Wetland Survey Report (TRC 2010c)
- Proponent's Environmental Assessment (TRC 2010d)
- Rare Plant Survey Report (TRC 2010e)
- Aquatic Sampling Report for Special-Status Amphibians (Biosearch Associates 2009)
- California Tiger Salamander Upland Study (Biosearch Associates 2010)

Vegetation and Habitat Types

Overview

Eight vegetation types were identified in the biological survey area (TRC 2010e). These vegetation types are described based on Holland (1986) and Sawyer and Keeler-Wolf (1995) and consist of the following:

- Non-native annual grassland
- Central coast scrub
- Northern mixed chaparral/Maritime chaparral
- Coast live oak woodland
- Ruderal
- Seasonal wetland
- Intermittent drainage
- Coastal and valley freshwater marsh

Riparian Habitat, Wetland, and Aquatic Habitats

In October 2009, 97 acres encompassing the project area and a large buffer were surveyed for wetlands. During the March 2010 rare plant survey, additional work areas and a buffer were also surveyed for wetlands. USACE's three-parameter (vegetation, hydrology, and soils) methodology from the 1987 USACE Manual was used to delineate jurisdictional waters of the United States,

focusing specifically on jurisdictional wetlands (TRC 2010b). The Arid West Supplement was also used in conjunction with the 1987 USACE Manual. Where differences existed between the two documents, the Arid West Supplement took precedence over the USACE Manual. This methodology requires the collection of data on soils, vegetation, and hydrology at several locations to establish the jurisdictional boundary of wetlands. Prior to beginning the field delineation, aerial photographs of the project area and U.S. Geological Survey (USGS) 7.5-minute series quadrangle maps were examined to determine the potential locations of jurisdictional waters of the United States, including wetlands and historical blue-line features. The USFWS National Wetlands Inventory and available Natural Resources Conservation Service (NRCS) soil mapping data for the project area also were reviewed.

Three aquatic vegetation types were identified in the biological study area (TRC 2010b):

- Seasonal wetland
- Intermittent drainage
- Freshwater marsh

Four intermittent drainages (ID1, ID2, ID3, and ID4) and three seasonal wetlands (SW1, SW2, and SW3) were recorded in the wetland delineation study area. Of these drainages and seasonal wetlands, only ID1 and ID2 (totaling 0.098 acre) and SW1 and SW2 (totaling 0.789 acre) are expected to be jurisdictional and regulated by USACE. Total jurisdictional acreage is 0.887 acres (TRC 2010b).

Surface water runoff from ID1, ID2, SW1, and SW2 eventually flows off site through a culvert under San Juan Grade Road and into Gabilan Creek, less than 0.25 miles away.

Sensitive Natural Communities

Sensitive natural communities are characterized as plant assemblages that are either:

- Unique in constituent components
- Restricted in distribution
- Supported by distinctive edaphic (pertaining to the physical or chemical characteristic of soil) conditions
- Considered locally rare
- Potentially support special-status plant or wildlife species
- Receive regulatory protection from municipal, county, state, and/or federal entities

The regulatory framework that protects sensitive natural communities is derived from local, state, and federal laws and regulations, including Section 10 of the federal Rivers and Harbors Act, Sections 401 and 404 of the federal CWA, Section 1600 et seq. of the California Fish and Game Code, Section 15065 of the CEQA Guidelines, and various other city or county codes.

Implementation and enforcement of these regulations are conducted by regulatory entities such as USACE, RWQCB, CDFG, lead agency (CPUC), and/or various cities or counties. The California

Natural Diversity Database (CNDDB) treats a number of natural communities as rare, which gives them highest inventory priority (Holland 1986; CDFG 2003 and 2009a).

Within the project area, there are four sensitive natural communities: central maritime chaparral, seasonal wetland, intermittent drainage, and freshwater marsh.

Special-Status Species

A preliminary literature search was conducted to prepare a list of special-status plant and wildlife species with the potential to occur in the project area. The following references were used in the literature search:

- CNDDB occurrence records within a 5-mile buffer around the project area
- USGS Atascadero, Santa Margarita, San Luis Obispo, and Lopez Mountain 7.5-minute quadrangles
- California Native Plant Society's (CNPS's) Electronic Inventory of Rare, Threatened, and Endangered Plant Species
- Aerial photographs to identify potential habitats for special-status species
- Correspondence from USFWS identifying federally listed species in the vicinity of the project region

Rare plant surveys were conducted in March and May 2010 to determine the presence/absence of special-status plant species with the potential to occur within the survey area (TRC 2010e). Reconnaissance-level biology surveys were conducted in July 2008, October 2009, and March 2010.

Special-Status Plants

Table 3.5-1 lists the special-status plant species (Monterey spineflower and Pajaro Manzanita) that were observed during the surveys (TRC 2010e).

Sixteen individuals of Pajaro manzanita were observed near the proposed work area of the northernmost tower within northern mixed chaparral/central maritime chaparral. Monterey spineflower was observed in two locations within the project area, both in the ecotone (ecological transition area) between coastal scrub or chaparral and non-native annual grassland. The two locations are:

- An 81-square-foot area near the northernmost pull site containing approximately 40 individuals
- A 1,332-square-foot area between the 60kV power line and the Moss Landing-Salinas-Soledad Nos. 1 and 2 115 kV power lines containing approximately 400 to 500 individuals

Five other special-status plant species have the potential to occur in the study area because they occur very near to the project area and/or they may have been undetected due to blooming periods occurring outside of the survey dates. These five species are listed in Table 3.5-2.

Table 3.5-1: Special-Status Plants Known to Occur in the Project Area

Name	Listing Status
Pajaro manzanita (*Arctostaphylos pajaroensis*)	CNPS 1B.1
Monterey spineflower (*Chorizanthe pungens var. pungens*)	FT and CNPS 1B.2

Notes:
FT = federally threatened
CNPS 1B = rare, threatened, or endangered in California
0.1 = seriously endangered in California
0.2 = fairly endangered in California

Table 3.5-2: Special-Status Plants with Potential to Occur in the Project Area

Name	Listing Status	Blooming Month/Peak Survey Period
Seaside bird's beak (*Cordylanthus rigidus ssp. littoralis*)	CNPS 1B.1	September
Santa Cruz tarplant (*Holocarpha macradenia*)	FT, SE, CNPS 1B.3	September
Wooly-headed lessingia (*Lessingia hololeuca*)	CNPS 1B.1	September
Yadon's rein orchid (*Piperia yadonii*)	FE, CNPS 1B.2	July
Congdon's tarplant (*Centromadia parryi ssp. congdonii*)	CNPS 1B.2	July

Notes:
FE = federally endangered
FT = federally threatened
SE = state endangered
CNPS 1B = rare, threatened, or endangered in California
CNPS 2 = rare, threatened, or endangered in California, but more common elsewhere
0.1 = seriously endangered in California
0.2 = fairly endangered in California
0.3 = not very endangered in California

Special-Status Wildlife

Burrowing Owl. A Phase I Habitat Assessment for the burrowing owl was conducted concurrently with the general biological reconnaissance survey in July 2008 and October 2009. Biologists determined during the surveys that the project area contained foraging habitat and some small rodent burrows that may be suitable for burrowing owls. A Phase II Burrow Survey was conducted in January 2010 within suitable habitat using the California Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* (1993) to determine if there were any rodent burrows suitable to be inhabited by burrowing owls. No burrowing owls or signs

of the species were observed. The survey results suggest that burrowing owls currently do not use the project area for nesting or wintering and that there are no suitable burrows; however, burrowing owls could move into the project area prior to commencement of project construction activities.

Aquatic Sampling. Aquatic protocol-level surveys for the California tiger salamander (CTS) and California red-legged frog (CRLF) were conducted on March 18, April 21, and May 20, 2009. The USFWS concurred that the focused study designed for CTS would also be sufficient to determine presence of the CRLF (Biosearch Associates 2009). Aquatic sampling for CTS and CRLF larvae was performed at Lagunita Lake and an unnamed pond to the northeast (Figure 3.9-1). Methodologies conformed to survey guidelines for the CTS provided by USFWS and CDFG and followed conditions of federal permit PRT-758251-11 issued to Biosearch Associates, which included written approval from the USFWS Ventura Field Office dated March 12, 2009. No CTS or CRLF larvae were detected at either pond during aquatic sampling in 2009. The second phase of aquatic sampling occurred in May 2010.

Upland Drift Fence Study. Protocol-level upland drift fence studies for the CTS began prior to the wet season in 2009. The upland surveys followed methods issued by USFWS and CDFG and conditions of permit TE 768251-11 issued to Biosearch Associates.

A single CTS was captured entering the southeast portion of the study area on February 5, 2010. On February 22, 2010, the same individual was captured again exiting the project area upslope to the west. This was the only CTS captured from the study. The upland survey was completed on March 15, 2010. A second phase of the upland drift fence study will not be conducted due to the confirmed presence of CTS in the switching station footprint.

Species Potential to Occur in Project Area

Habitat assessments during the reconnaissance field surveys and background research resulted in the identification of 20 special-status wildlife species with the potential to occur in the project area (Table 3.5-3). A list of species that were suggested to potentially occur in the project region by a review of the CNDDB, but are unlikely to occur based on a lack of suitable habitat, local range restrictions, regional extirpations, lack of connectivity between areas of suitable or occupied habitat, and/or incompatible land use and habitat degradation/alteration of on-site or adjacent lands, is included in Appendix C. These species are not addressed further.

Table 3.5-3: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
Fish			
Oncorhynchus mykiss irideus Steelhead: south/central California coast evolutionarily significant unit (ESU)	FT, CH in Gabilan Creek	Steelheads are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating to the ocean to forage until maturity. The timing of upstream migration correlates with higher flow events, such as freshets or sand bar breaches, as well as with lower temperatures during the winter months. During spawning, thousands of eggs are laid in freshwater gravel nests excavated by females. Depending on lake/stream temperatures, eggs incubate for several weeks or months before hatching. Following yolk sac absorption, juveniles (fry) begin actively feeding. Juveniles may spend from a few hours to several years in freshwater areas before migrating to the ocean. Habitat loss has been acute in the Salinas basin.	No potential, but could be affected if water contaminated from the project drains into its habitat (Gabilan Creek)
Amphibians			
Ambystoma californiense California tiger salamander	FT, ST	Adults spend most of the year in subterranean refugia, especially burrows of California ground squirrels and occasionally man-made structures. During breeding migrations, individuals are sometimes found under surface objects, such as rocks and logs. Post-metamorphic juveniles retreat to small mammal burrows after spending a few hours or days in mud cracks near water or tunnels constructed in soft soil. Aquatic larvae seek cover in turbid water, clumps of vegetation, and other submerged debris. Central Valley distinct population segment (DPS) is listed as threatened. Santa Barbara and Sonoma counties DPS are listed as endangered. The species breeds in vernal pools and other temporary rainwater ponds, including cattle ponds, following relatively warm rains in November to February, and on submerged debris in shallow water. One juvenile was found trying to enter the project site during the upland protocol survey. Breeding habitat exists in Lagunita Lake and	Present

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
		an unnamed pond. Species could also occur in burrows in the grasslands. Nearest CNDDB occurrence is 0.8 mile northeast of the survey area. Another occurrence is approximately 1.5 miles west of the survey area.	
Rana draytonii California red-legged frog	FT, CSC	Occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Breeds January to July (peaks in February). Requires 11 to 20 weeks of permanent water for larval development. Females attach eggs to vegetation 2 to 6 inches below the surface. Requires access to aestivation habitat. Individuals have been found at considerable distances from breeding sites on rainy nights. Breeding habitat is present outside but close to the survey area. Barrier of San Juan Grade Road exists between breeding habitat and dispersal habitat. Species could use survey area for dispersal. Pacific tree frog tadpoles (food source) were observed in well located in the survey area; nearest CNDDB occurrence is approximately 0.7 mile northwest of survey area.	Low potential
Taricha torosa torosa Coast Range newt	CSC	Occurs primarily in valley-foothill hardwood, valley-foothill, hardwood-conifer, coastal scrub, and mixed chaparral, but is also known from annual grassland and mixed conifer types. Terrestrial individuals seek cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells. Aquatic larvae find cover beneath submerged rocks, logs, debris, and undercut banks. Species could migrate though survey area during the rainy season; nearest CNDDB occurrence is approximately 2 miles northwest of survey area. Except for a well with Pacific tree frog tadpoles, no permanent water body is located within the survey area. An unnamed pond is located northeast of the study area and the species was present during aquatic surveys for the CTS. Lagunita Lake is dry during the summer; species may occur in survey area when traveling overland. The closest CNDDB record is 0.3 mile northwest of the survey area.	High potential

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
Reptiles			
Actinemys marmorata pallida Southwestern pond turtle	CSC	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Hibernation in colder areas is passed underwater in bottom mud. Along large, slow-moving streams, eggs are deposited in nests constructed in sandy banks. Along foothill streams, females may climb hillsides, sometimes moving considerable distances to find a suitable nest site; a nest has been reported in a clover field 325 feet from water.	Moderate potential
Anniella pulchra nigra Black legless lizard	CSC	Common in several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub types. Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter. Legless lizards sometimes seek cover under surface objects such as flat boards and rocks where they lie barely covered in loose soil. They are often encountered buried in leaf litter and commonly burrow near the surface through loose soil. Species could occur in oak woodland; leaf litter present under trees and soils are loose and sandy. CNDDB records are deemed sensitive but species has been recorded somewhere between 2.3 to 10 miles west of survey area.	Moderate potential
Birds			
Accipiter striatus Sharp-shinned hawk	WL (nesting)	Probably breeds south in Coast Ranges to about 35 degrees latitude, and at scattered locations in the Transverse and Peninsular Ranges. Uses dense stands in close proximity to open areas. Roosts in intermediate- to high-canopy forest. Nests in dense, even-aged, single-layered forest canopy. Winters in woodlands. Nest typically located within 275 feet of water. Although there is no CNDDB record, survey area is on boundary of species' range.	Low to moderate potential
Accipiter cooperii	WL (nesting)	Frequents landscapes where wooded areas occur in patches and groves. Often uses patchy woodlands and	Moderate potential

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
Cooper's hawk		edges with snags for perching. Dense stands with moderate crown depths used for nesting. Nests in deciduous trees in crotches 10 to 80 feet, but usually 20 to 50 feet, above the ground. Nesting and foraging usually occur near open water or riparian vegetation. Usually nests in second-growth conifer stands, or in deciduous riparian areas, usually near streams. Seldom found in areas without dense tree stands or patchy woodland habitat. Nearest CNDDB occurrence is approximately 5.5 miles south of survey area where two adults and nestlings were observed in nest in May 2004.	
Agelaius tricolor Tricolored blackbird	CSC (nesting colonies)	Frequents fresh emergent wetlands. Nest may be located up to 4 miles from foraging areas. Seeks cover in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Roosts in large flocks in emergent wetland or in trees. Usually nests in dense cattails or tules; also nests in thickets of willow, blackberry, wild rose, and tall herbs. Nest usually located a few feet over, or near, fresh water; also may be hidden on ground among low vegetation. Builds nest of mud and plant materials. Highly colonial; nesting area must be large enough to support a minimum colony of about 50 pairs. Nearest CNDDB occurrence is at Lagunita Lake, where in 1971, approximately 1,000 individuals were observed.	Low potential
Aquila chrysaetos Golden eagle	FP, WL (nesting and wintering)	Uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, and rock outcrops. Nests on cliffs of all heights and in large trees in open areas. Rugged, open habitats with canyons and escarpments used most frequently for nesting. Needs open terrain for hunting: grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. The nearest CNDDB occurrence is within approximately 0.9 mile northwest of the survey area where an adult was observed near a nest site in July 2001.	Low potential
Asio otus Long-eared	CSC (nesting)	Breeds from valley foothill hardwood up to ponderosa pine habitats. Species roosts and nests in riparian or	Low to moderate potential

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
owl		other thickets with small, densely canopied trees. Old crow, magpie, hawk, heron, and squirrel nests in a variety of trees with dense canopy are used. Nest usually 10 to 50 feet above ground, rarely on ground or in tree or snag cavity. Breeding was confirmed at the Hastings Natural History Museum and near Carmel Valley, Monterey County. Denser oak woodland areas provide habitat. Old raptor nest was found near survey area and could be used by this species. No CNDDB occurrences were found.	
Athene cunicularia Burrowing owl	CSC (burrowing sites and some wintering sites)	Frequents open grasslands and shrublands with perches and burrows. Usually nests in old burrow of ground squirrel or other small mammal. May dig own burrow in soft soil. Pipes, culverts, and nest boxes may be used where burrows are scarce. Species has declined in Monterey County, with a small population remaining near Salinas and King City. Oak trees provide habitat for other raptors that would most likely prey upon owls, especially if young were present. Results of habitat assessment indicated suitable breeding, foraging and denning habitat was present within the project area; however, focused surveys did not identify any burrowing owls within the project area. The nearest CNDDB occurrence is approximately 3.5 miles southwest of the survey area. One owl was observed occupying a ground squirrel burrow in January 2007.	Unlikely potential
Dendroica petechia Yellow warbler	CSC (nesting)	Frequents open to medium-density woodlands and forests with a heavy brush understory in breeding season. In migration, found in a variety of sparse to dense woodland and forest habitats. In summer, usually found in riparian deciduous habitats, including cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. A population of roughly 500 to 900 pairs occurs in Monterey County. Species could occur in oak woodland and hunt for prey in non-native grassland. No CNDDB occurrences were found.	Moderate to high potential
Elanus	FP	Forages in undisturbed, open grasslands, meadows,	High potential

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
leucurus White tailed-kite	(nesting)	farmlands, and emergent wetlands. Nests placed near the top of dense oak, willow, or other tree stand, usually 20 to 100 feet above ground. Nests located near open foraging areas. Species could occur in oak woodland and hunt for prey in non-native grassland; nearest CNDDB occurrence is approximately 8 miles west of survey area.	
Lanus ludovicianus Loggerhead shrike	CSC (nesting)	Rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California; uses herbaceous lowlands with variable tree growth and dense population of voles. Substantial groves of dense, broad-leafed deciduous trees used for nesting and roosting. The species is uncommon in Monterey County, especially from Greenfield south, and has declined significantly in the agricultural region of the Salinas Valley. Species has suitable habitat present and could occur in oak woodland and hunt for prey in non-native grassland; survey area is near boundary of species breeding range. No CNDDB occurrences were found.	Moderate potential
Mammals			
Antrozous pallidus Pallid bat	CSC	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Roost must protect bats from high temperatures. Bats move deeper into cover if temperatures rise. Night roosts may be in more open sites, such as porches and open buildings. Few hibernation sites are known, but species probably uses rock crevices. Species may use tree hollows for day roosts and open areas for foraging. The nearest CNDDB occurrence is approximately 5.5 miles north of the survey area.	Moderate potential
Corynorhinus townsendii Townsend's big-eared bat	CSC	Prefers mesic habitats. Gleans from brush or trees or feeds along habitat edges. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. May use separate sites for night, day, hibernation, or maternity roosts. Hibernation sites are	Low potential

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
		cold, but not below freezing. Individuals may move within the hibernaculum (winter residence) to find suitable temperatures. Maternity roosts are warm. Roosting sites are the most important limiting resource. Found throughout most of California from sea level along the coast to 1,820-meter elevations in the Sierra Nevada Mountains, with populations concentrated in areas offering caves (commonly limestone or basaltic lava) or mines as roosting habitat. No suitable roosting habitat within survey area, but the species may forage over the survey area. Nearest record occurred before 1978 and is in the Gabilan Range approximately 5 miles southeast of the survey area.	
Dipodomys venustus venustus Santa Cruz (narrow-faced) kangaroo rat	CSC	Suitable habitat is characterized by open areas surrounded by chaparral, foothill woodlands, and brush/ herbaceous edges. Undisturbed, well-drained loam and sandy loam soils are required for burrowing. Species uses burrows for cover. Occurs in the cool, maritime mountains of west-central California. Historical records range from Mount Hamilton to Corralitos, with most specimens collected around Mount Hermon, Felton, and Bonny Doon in Santa Cruz County. Populations in the Santa Cruz Mountains are separate from populations in the Diablo and Gabilan Ranges. The survey area is between Santa Cruz County populations and disjunct populations in the Gabilan Range; however, suitable habitat is present within the survey area; nearest record is approximately 5.5 miles southeast of the survey area.	Unlikely
Eumops perotis californicus Western mastiff bat	CSC	This species, which has a large wing span, resides at low elevations in the coastal basins. It primarily roosts in crevices in vertical cliffs, usually granite or consolidated sandstone, and in broken terrain with exposed rock faces; it may also be found occasionally in high buildings, trees, and tunnels. Nearest CNDDB occurrence is approximately 12 miles to the northeast in Hollister. Bat may use trees that exist within survey area to roost and may use survey area to forage. The bat may be attracted to this general area by the nearby stock pond, which is large enough to allow this large	Low potential

Table 3.5-3 *(Continued)*: Sensitive Wildlife Species with Potential to Occur within Survey Area

Scientific Name Common Name	Status	General Habitat Description	Potential to Occur within Survey Area
		wing span species to use as a water source.	
Taxidea taxus American badger	CSC	Occurs in herbaceous, shrub, and open stages of most habitats with dry, friable soils. Badgers dig burrows in friable soil for cover and frequently reuse old burrows, although some may dig a new den each night, especially in summer. Badgers are rare in Monterey County. Nearest CNDDB occurrence is 0.9 mile northwest of the survey area.	High potential

Notes:

Federal Designations (USFWS):

CH: Critical Habitat within 5 miles of survey area

FT: Listed as threatened under the ESA by the federal government

State of California Designations (CDFG):

ST: Listed as Threatened by the state government

CSC: CDFG Species of Special Concern

WL: Watch List

FP: Fully Protected

SOURCES: CDFG 1985, 1990a, 1990b, and 2008; Department of Interior (DOI) 2004a and 2004b; Shuford and Gardali 2008; William 2008; Biosearch Associates 2010

Monterey County Tree Ordinances

The Monterey County Zoning Requirements Section 21.64.260 titled Preservation of Oak and Other Protected Trees Ordinance provides regulations for the protection and preservation of oak trees and other specific types of trees as required in the Monterey County General Plan, area plans, and master plans. Protected trees under the Ordinance include:

- Oak and madrone trees that are 6 inches or more in diameter 2 feet above ground level
- Landmark oak trees that are 24 inches or more in diameter 2 feet above the ground, or trees that are visually significant, historically significant, or exemplary of their species

3.5.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	*Potentially Significant Impact*	*Potentially Significant Impact Unless Mitigation Incorporated*	*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 the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
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 wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Impacts

a) Would the project 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 the U.S. Fish and Wildlife Service?

Construction

Special-Status Plant Species. Construction activities have the potential to impact special-status plant species that occur or have the potential to occur in the project area. Pajaro manzanita was observed near the proposed work area of the northernmost tower within northern mixed chaparral/central maritime chaparral. Work activities at this location include relocating the tower to the north and installing a shoo-fly. Potential project impacts to Pajaro manzanita include

crushing and damage of plants at the tower footings and along access roads and clearing of vegetation to provide work space. Impacts to Pajaro manzanita may likely be avoided if tower footings and work areas can avoid Pajaro manzanita plants.

Monterey spineflower was located north of the northernmost pull site and under the existing Moss Landing-Salinas-Soledad Nos. 1 and 2 115 kV power line, which would be removed and relocated. Potential impacts to Monterey spineflower could occur from vegetation clearing and power line removal. Five other special-status plant species (Table 3.5-2) have the potential to occur on site and could be impacted during vegetation-clearing activities or construction activities. Impacts to Monterey spineflower can be avoided as the pull site and work areas are located away from the known location of the plants.

Additional potential impacts to sensitive plant species during construction include the introduction of invasive plant species, the potential for brush fires, the removal of oak trees, and spills of hazardous materials used during project construction.

The project applicant identified several APMs to reduce impacts to special-status plant species: APMs Biology-1, Biology-2, Biology-3, Biology-4, Biology-5, Biology-7, Biology-9, Biology-10, Biology-15, and Biology-16.

APM Biology-1. All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers. Trash containers will be removed from the project area at the end of each working day.

APM Biology-2. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road parking shall only be permitted in previously identified and designated work areas.

APM Biology-3. Vehicles will be confined to established roadways and pre-approved access roads, overland routes and access areas. Access routes and temporary work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Vehicular speeds will be kept to 15 mph on unpaved roads.

APM Biology-4. All equipment will be maintained such that there will be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated staging areas located at least 100 feet from any down gradient aquatic habitat unless otherwise isolated from habitat. Proper spill prevention and cleanup equipment shall be maintained in all refueling areas.

APM Biology-5. No pets or firearms will be permitted at the project site.

APM Biology-7. In areas that will be restored following construction of the facility, PG&E will minimize clearing of oaks to only what is required to maintain a safe facility. In these areas, PG&E will endeavor to retain a representative sample of sizes, ages and species of oaks with special emphasis placed on retaining samplings.

APM Biology-9. A qualified biological monitor will be on site during all ground-disturbing construction activities in or near sensitive habitats previously identified. The monitor will

ensure implementation of and compliance with all APMs. The monitor will have the authority to stop work or determine alternative work practices in consultation with agencies and construction personnel as appropriate if construction activities are likely to impact sensitive biological resources. The biological monitor will complete daily logs to document construction activities and environmental compliance. The daily logs will be included in the project report submitted to the appropriate agencies following completion of construction. The biological monitor will be responsible for reporting any capture and relocation, harm, entrapment, or death of a listed species to the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Game (CDFG) and for reporting any permit violations in a timely manner and as indicated in their respective permits.

APM Biology-10. Sensitive resources identified during pre-construction surveys in the project vicinity will be mapped and clearly marked in the field. Such areas will be avoided during construction to the extent practicable and/or additional measures specific to sensitive species types as described herein and that may be required by the United States Army Corps of Engineers (USACE), USFWS, CDFG, and Regional Water Quality Control Board (RWQCB) permits, will be implemented to avoid or minimize impacts.

APM Biology-15. PG&E has and will implement its system-wide program which includes established procedures for handling and managing hazardous substances and emergency response in the event of a hazardous substance spill. These procedures will add to the requirements in the project SWPPP.

APM Biology-16. PG&E will prepare a Fire Prevention and Response Plan that will include reducing the potential for igniting combustible materials. The procedures will cover electrical hazards, flammable materials, smoking, vehicle and equipment access, and fire watches during construction and maintenance procedures during subsequent operation. Project personnel will be directed to park away from dry vegetation; not to smoke; and to equip vehicles with appropriate firefighting equipment; such as water dispensers and shovels, in times of high fire hazard.

The project could still have significant impacts on special-status plants with the potential occur in the project area, but that have not been observed in the project area. Five additional APMs have been superseded by mitigation measures to reduce potentially significant impacts from the project to special-status plant species to less than significant levels. These superseded APMs are the following:

- APM Biology-6 has been superseded by mitigation measure Biology-6 to specify how vegetation clearing shall occur.
- APMs Biology-17 and Biology-18 have been superseded by mitigation measure Biology-17 to mitigate for several plant species that were not detected during the botanical surveys due to the surveys occurring outside of the plants' blooming periods, but that could occur on site. Mitigation measure Biology-17 requires surveys to be conducted during the appropriate blooming periods for the sensitive plant species identified in Table 3.5-2.

- APM Biology-32 has been superseded by mitigation measure Biology-32 to require erosion control materials and any materials brought onto the site to be weed-free.

Implementation of mitigation measures Biology-6, Biology-17, and Biology-32 would reduce the potential for impacts to special-status plant species to a less than significant level.

Mitigation Measure Biology-6 (proposed to supersede APM Biology-6). Clearing and grading activities shall be limited to work areas only. Grading and vegetation-clearing activities shall be minimized along access roads and at pole and tower work areas. Vegetation shall be cut at ground level, leaving the existing root systems intact where possible.

Mitigation Measure Biology-17 (proposed to supersede APMs Biology-17 and Biology-18). The applicant shall comply with the following surveys and procedures:

1. All special-status plant species will be clearly flagged prior to construction and impacts to special-status plants shall be avoided if possible.
2. Focused botanical surveys shall be conducted in July and September in work areas, along access roads, in temporary work areas, or within the right-of-way to determine if additional special-status plant species that have the potential to occur are present within the work areas. Any special-status plant species that are observed shall be enumerated and mapped. If surveys are not possible in all work areas during the months of July and September because of the construction schedule, information from past surveys will be used to delineate special-status plant populations.
3. Prior to construction, special-status plant species within the work areas that have the potential to be impacted shall be enumerated, photographed, and conspicuously flagged to maximize avoidance, as well as to determine the total number of individuals affected. Entire areas may be flagged to maximize avoidance. Timing of field surveys and flagging shall correspond with the blooming period when the species is most conspicuous and easily recognizable. If timing of field surveys and flagging must occur outside of the appropriate blooming period, the map and global positioning system locations collected during focused botanical surveys can be used to flag locations for avoidance.
4. Work areas within occupied habitat shall be limited to existing access roads and to the minimal area practical. Staging areas, spoils storage, and equipment/vehicle parking shall occur in designated areas outside of occupied habitat.
5. If possible for annual special-status plant species, timing of work activities within occupied habitat shall occur prior to the fall rains and after seeds have set to minimize project impacts on the seed bank.
6. Seeds from special-status plant species with mature seed that are likely to be impacted shall be collected and properly stored for post-construction propagation and re-establishment. Individuals that are likely to be impacted shall be translocated by digging up plants and replanting in suitable habitat under the supervision of the project biologist and with authorization from USFWS and/or CDFG.
7. If grading occurs in occupied habitat of special-status plant species, then the first 6 inches of topsoil shall be stored separately on site and protected from exotic weed seed dispersal. The purpose of the topsoil collection is to salvage any viable seeds in the seed bank by returning this soil horizon to its appropriate place in the profile.

8. In the event that any special-status plants cannot be avoided, PG&E shall consult with the USFWS and/or the CDFG (depending on whether the species is on the federal and/or state list of sensitive species) to determine appropriate measures to minimize effects to the species and its habitat during construction of the project, as well as during operation and maintenance. The CPUC shall be informed of the results of any agency consultations. A mitigation and monitoring plan may be required that details impacts to special-status plant species and outlines remedial actions to mitigate impacts. Monitoring may be required for subsequent years to monitor mitigation activities and plant recovery.

In addition to these avoidance measures, the following plant-specific measures shall be implemented:

Pajaro Manzanita and Pajaro Manzanita Chaparral

a. Removal of entire Pajaro manzanita plants from the ground shall be avoided and stumps and roots shall be retained. The applicant shall avoid damage to shrub branches where possible. The applicant shall hand-prune manzanita plants where clearance is necessary and leave stumps in place. Pruning shall not come within 6 inches of the ground surface to avoid disturbing the seed bank and to leave the stump in place. The applicant shall remove and discard all damaged branches to non-maritime chaparral sites to avoid manzanita dieback.

b. If possible, pruning of manzanita shall occur after the plants have dispersed seed for the year (late summer/early fall), and before flowering begins (typically in December). Any branches with mature seed that are likely to be impacted shall be salvaged and the seed stored until work is complete. When the timing is appropriate after the start of the rainy season, collected seed shall be sown in appropriate locations on the project site as determined by the project biologist.

c. A Revegetation and Monitoring Plan shall be prepared for the areas of temporary disturbance where Pajaro manzanita occurs and for other disturbed areas of the project site. This plan shall be implemented during construction and for 3 years thereafter. Disturbed areas, other than existing access roads, shall be stabilized and revegetated with appropriate (conducive with PG&E line clearance requirements) native species or as approved by the landowner. The Revegetation and Monitoring Plan shall include the planting of salvaged Pajaro manzanita seed if Pajaro manzanitas were impacted. If applicable, the site shall be monitored following construction to prevent establishment of weeds and to ensure the successful reestablishment of native species.

Monterey Spineflower

a. If impacts occur to the Monterey spineflower, the applicant shall monitor the response of plants in impacted areas in subsequent growing seasons following project construction. If necessary, the applicant shall also augment the Monterey spineflower population through supplemental seeding from garden-grown seed.

Mitigation Measure Biology-32 (proposed to supersede APM Biology-32). PG&E shall clean equipment and vehicles prior to arriving on site. Equipment shall be inspected and cleaned as

needed prior to use in areas with rare plants. All plant material (e.g., straw, mulch, and seeds) used for erosion control and/or road maintenance shall be weed-free. If weed-free straw or mulch is not available, rice straw and mulch shall be used. The project biologist shall ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed. Seed mixes shall be approved by a biologist prior to application. Where possible, local or on-site seed sources shall be used.

Special-Status Wildlife Species. A summary of impacts to known or potentially occurring special-status wildlife species as a result of project construction and operation is provided below. Suitable habitat for special-status wildlife species is present within the project area. Construction activities and structure installation in the vicinity of the identified sensitive areas could potentially disturb or remove habitat occupied by special-status wildlife. Construction activities have the potential to directly or indirectly kill or harm eggs, larvae, juveniles, or adult special-status species. Specific impacts to special-status species are described below. The project applicant identified several APMs to reduce impacts to special-status wildlife species: APMs Biology-1, Biology-2, Biology-3, Biology-4, Biology-5, Biology-7, Biology-9, Biology-10, Biology-15, and Biology-16.

Amphibians. Special-status amphibians including CRLF, CTS and coast range newt, could use Lagunita Lake (located approximately 0.25 mile southwest of the project area), an unnamed pond (located approximately 0.5 mile northeast of the project area), and/or Gabilan Creek (located less than 0.25 mile south of the project area) for breeding. One juvenile CTS was found during the upland protocol surveys in the project area; therefore, it is presumed that the CTS are using the upland area for aestivation. CRLF s and coast range newts could also use the project area for dispersal and upland refugia and foraging habitat, though neither species was found on the site during surveys conducted in 2009 and 2010.

Construction activities that affect dispersal and upland habitat may disturb or remove habitat occupied or potentially occupied by special-status amphibian species. Movement of construction equipment, construction of the proposed switching station, towers, and access roads, grading and clearing activities, and use of other work areas would impact the non-native grassland, coastal scrub, northern mixed chaparral, and coast live oak woodland that the special-status amphibians may inhabit. Additionally, special-status amphibians could become injured or killed as a result of construction of the proposed facilities. Aquatic habitat may also be indirectly affected should sedimentation from the project area flow into Gabilan Creek.

Implementation of APMs Biology-24 and Biology-26 would reduce impacts to amphibians. APM Biology-8 has been superseded by mitigation measure Biology-8 to incorporate CPUC documentation and record-keeping requirements. APM Biology-21 has been superseded by mitigation measure Biology-21, which would protect CTS and CRLF from any unauthorized relocations. APMs Biology-22 and Biology-23 have been superseded by mitigation measures Biology-22 and Biology-23, respectively, to include protection for special-status amphibian species by restricting construction activities from occurring within suitable habitat. Mitigation measures Biology-21, Biology-22, Biology-23, and Biology-33 would ensure that potential impacts to CRLF and CTS would be reduced to a less than significant level. PG&E also is currently consulting with USFWS and CDFG regarding compensation and conservation measures for potential take of CTS

and CRLF species and associated habitat. PG&E will obtain a Section 7 consultation from USFWS and/or an Incidental Take Permit from CDFG for the potential take of a special-status species, as required by law.

APM Biology-24. Construction activities within 600 feet of suitable aquatic habitat shall not begin prior to 30 minutes after sunrise and will cease no later than 30 minutes before sunset.

APM Biology-26. PG&E is currently in consultation with the USFWS and CDFG regarding compensation and conservation measures for any potential take of the species and its associated habitat.

Mitigation Measure Biology-8 (proposed to supersede APM Biology-8). A USFWS-approved biologist shall design and lead a Worker Environmental Awareness Program (WEAP) for all construction and on-site personnel prior to beginning construction activities. Training shall include a discussion of avoidance and minimization measures to be implemented to protect biological resources, as well as the terms and conditions of the Biological Opinion and other permits. Training shall include information on the federal and state ESAs, the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act, and the consequences of noncompliance with these acts. Workers shall be informed of the presence, life history, and habitat requirements of all special-status species, including the CRLF, with a potential to be affected within the project area. The training shall include a description of the CRLF and its habitat and the importance of the CRLF and its habitat, along with the general measures that are being implemented to conserve the CRLF, as they relate to the project. Training shall include information on state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure shall be produced for construction crews working on the project. The brochure shall include color photos of sensitive species as well as a discussion of mitigation measures. No construction worker shall be involved in field operations without having participated in this special-status species/sensitive habitat informational training. A copy of the WEAP shall be submitted to the CPUC at least 30 days prior to construction. Training attendance sheet(s) shall be submitted to the CPUC after each training session.

Mitigation Measure Biology-21 (proposed to supersede APM Biology-21). Pre-construction surveys for CRLF and CTS shall be conducted by a USFWS/CDFG-approved biologist no more than five days prior to the initiation of any ground disturbing activities within 600 feet of suitable aquatic or upland habitat. Visual encounter surveys shall be conducted within areas subject to ground disturbing activities. All suitable aquatic and upland habitat including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, *etc*., shall be thoroughly inspected. If a CRLF or CTS is observed prior to or during construction, work within 250 feet of the animal sighting shall halt (once safe to do so) and shall not proceed until the USFWS/CDFG are contacted to determine what actions shall be taken, unless such actions have been approved by USFWS/CDFG in advance of project construction. If no CRLF or CTS are observed during the pre-construction surveys, construction shall commence as scheduled.

Mitigation Measure Biology-22 (proposed to supersede APM Biology-22). Ground-disturbing construction activities within 600 feet of suitable CRLF and CTS habitat shall not occur during the wet season when CRLF and CTS are most active, *i.e.*, moving to and from breeding sites and foraging further upland from aquatic features. Construction shall be limited to the time period from May 1 to October 15 or as approved by CDFG and USFWS.

Mitigation Measure Biology-23 (proposed to supersede APM Biology-23). Prior to the commencement of construction activities, flagging, signage, and/or high visibility fencing shall be erected around the CRLF, CTS, and coast range newt aquatic habitat to identify and protect it from the encroachment of personnel and equipment. These areas shall be avoided by all construction personnel. The fencing shall be inspected before the start of each workday and maintained until completion of the activity. Once the project site is prepared and work is only occurring in the switching station shall the fencing be removed. Only tightly woven netting or similar material shall be used for all geo-synthetic erosion control materials such as coir rolls and geo-textiles. No plastic monofilament matting shall be used for erosion control measures.

Mitigation Measure Biology-26 (proposed to supersede APM Biology-26). Prior to the start of construction, PG&E shall obtain an Incidental Take Permit from CDFG for CTS.

Mitigation Measure Biology-33. A USFWS/CDFG-approved biologist shall be present onsite to monitor for CRLF and CTS. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to protect listed species and shall advise the Resident Engineer or designee on how to proceed accordingly. The biologist shall be present during all construction activities where take of a listed species could occur. The biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or immediately adjacent to suitable CRLF and CTS habitat.

Reptiles. Special-status reptiles, including southwestern pond turtle and black legless lizard, could use the aforementioned aquatic features, non-native grassland, coastal scrub, northern mixed chaparral, and coast live oak woodland in the project area year-round. PG&E would implement APMs Biology-24 and Biology-26 to reduce impacts to reptiles. Mitigation measures Biology-21 through Biology-23, Biology-33, Biology-34 and Biology-35 would minimize the potential for direct mortality or injury of southwestern pond turtles and black legless lizards to a less than significant level. PG&E would also implement various BMPs to reduce potential indirect impacts to the turtle from sediment-laden runoff into Lagunita Lake or Gabilan Creek.

Mitigation Measure Biology-34. Preconstruction surveys shall be conducted by a qualified biologist immediately prior to the initiation of any ground disturbing activities within or immediately adjacent to suitable southwestern pond turtle, black legless lizard, and coast range newt habitat. Visual encounter surveys shall be conducted within or immediately adjacent to areas subject to ground disturbing activities. All suitable aquatic and upland habitat for turtles and/or coast range newts, and friable soils within northern mixed chaparral/central maritime chaparral and oak woodland habitat for black legless lizards shall be thoroughly inspected. If a southwestern pond turtle, coast range newt, or black legless lizard is observed, work within

250 feet of the animal shall halt (once safe to do so) and shall not proceed until the CDFG is contacted to determine what protective actions shall need to be taken unless protective actions have been approved by CDFG in advance of project construction. If no southwestern pond turtles and black legless lizards are observed during the preconstruction surveys, construction shall commence as scheduled.

Mitigation Measure Biology-35. A qualified biologist shall be present onsite to monitor for southwestern pond turtles, black legless lizards, and coast range newt. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to protect these species and shall advise the Resident Engineer or designee on how to proceed accordingly. The biologist shall be present during all construction activities that may impact these species. The biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or immediately adjacent to suitable southwestern pond turtle, black legless lizard, and coast range newt habitat.

Birds. Noise and activity, including the use of a helicopter, associated with project construction during the non-nesting season (*i.e.* from September 1 to January 31) could disturb raptors and other sensitive birds and cause them to abandon or temporarily avoid the construction area. Given the availability of considerable suitable foraging and nesting habitat surrounding the project, this non-nesting season impact would be less than significant.

The permanent loss of foraging habitat for the construction of the switching station pad, new tower and pole locations, and new access road is expected to be a less than significant impact because these areas comprise a small portion of the abundance of similar, available habitat adjacent to the project area.

APM Biology-27 has been supersede by mitigation measure Biology-27 to define appropriate buffers if an active nest is found. Mitigation measure would reduce potential nesting season impacts to less than significant levels.

Mitigation Measure Biology-27 (proposed to supersede APM Biology-27). Pre-construction bird nesting surveys in the project area shall be conducted no more than 30 days before work is performed between February 1 and August 15. To the extent possible, working in the vicinity of active nests shall be avoided; however, if avoidance is not practicable, a buffer zone of 250 feet shall be maintained around the active nest to prevent nest abandonment or disturbance. In the event that work shall take place within 250 feet (500 feet for raptors) of an active nest, a biological monitor shall monitor the activity of the nesting birds during work to determine if construction activities are resulting in significant disturbance to the birds. If the biologist determines that work is disrupting nesting activities, then work in that area shall be halted until nesting is completed and the young have fledged.

Phase I and Phase II burrowing owl surveys did not result in observed burrowing owls or secondary signs of the presence of burrowing owls in the project area. The project area does provide potential burrowing owl habitat. If a burrowing owl was found to be present in the project area prior to construction, impacts could be significant. APMs Biology-25 and Biology-28 has been

superseded by mitigation measure Biology-28 to improve surveying and monitoring methods for the burrowing owl. Mitigation measure Biology-28 would reduce the impacts to burrowing owls, if they should be present in the project area prior to construction, to a less than significant level.

Mitigation Measure Biology-28 (proposed to supersede APMs Biology-25 and Biology-28). No more than 30 days prior to the start of construction, preconstruction surveys for burrowing owls will be conducted in accordance with agency survey protocols to identify any burrowing owl or secondary sign of burrowing owls should any burrowing owls move onto the project area prior to construction. If ground-disturbing activities in suitable habitat are delayed or suspended for more than 30 days after the pre-construction surveys, the site will be resurveyed. If no burrowing owls are detected, no further mitigation is necessary. If active burrows are found near a work area, work in the vicinity of the burrows will be limited as follows:

1. No disturbance will occur within approximately 160 feet (50 meters) of occupied burrows during the non-breeding season of September 1 through January 31, or within approximately 250 feet (75 meters) during the breeding season of February 1 through August 31. Based on the site conditions and sensitivity of individual owl(s), the non-disturbance buffer may be extended if requested by CDFG.
2. The limits of the exclusion zone in the project work area will be clearly marked with signs, flagging and/or fencing.
3. If work within these limits is unavoidable while burrows are active, work will only take place within the presence of a qualified monitor who would monitor to determine if the owls show signs of disturbance or, upon prior approval from CDFG a passive relocation effort (displacing the owls from the work area) may be conducted as described below, and subject to the approval of the CDFG. Through communication with the Resident Engineer or their designee, the biologist will have the authority to stop work if deemed necessary for any reason to avoid impacts to burrowing owls and will advise the Resident Engineer or designee on how to proceed accordingly.
4. Passive relocation of owls may occur during the non-breeding season (September 1 through January 31) only with approval from CDFG. Passive relocation would include installing one-way doors on the entrances of burrows. The design of one-way doors should be determined in cooperation with CDFG. The one-way doors would be left in place for one week and monitored a minimum of twice daily for signs of birds that are unable to exit the burrow to ensure the owls have vacated the nest site. Owls would not be relocated during the breeding season, *i.e.* from February 1 to August 31. If burrowing owls are passively relocated, CDFG will be contacted to determine if compensation for loss of burrowing owl breeding burrows and surrounding habitat is necessary.

Fully protected species, golden eagle and white-tailed kite, occur in the project area and may be impacted by the project. These two species are also protected by the Migratory Bird Treaty Act, and golden eagles have additional protection under the Bald and Golden Eagle Protection Act, which prohibits take of this species including disturbance that causes injury or nest abandonment, or substantially interferes with breeding, feeding, or sheltering. Incidental take of either species is not permitted by CDFG and impacts to these species must be avoided. Mitigation measure

Biology-36 would reduce impacts to golden eagles and white-tailed kites to a less than significant level.

> **Mitigation Measure Biology-36.** No more than 30 day prior to the start of construction, for construction activities scheduled to begin during the breeding season from February 1 to August 31, a USFWS-approved biologist will conduct nest and point count surveys within one mile of the project footprint for golden eagles and white-tailed kites, unless otherwise directed by CDFG and/or USFWS. If surveys take place prior to February 15, then surveys will be repeated to detect any nesting activity. Unless otherwise approved by USFWS and/or CDFG, if active nests are found, they shall be monitored and, if it is determined that construction activities are causing nest disturbance, a no-disturbance buffer of 1,000 feet around eagle nests and/or 500 feet around white-tailed kite nests shall be observed until the young have fledged or as otherwise directed.

Although chances of California condor in this area re low, project construction activities could potentially introduce microtrash (e.g., glass, plastic trash, and small pieces of metal). Condors are very inquisitive birds and have been known to collect microtrash. This waste is either ingested or brought back to nest sites where young condors ingest the material. This ingestion of microtrash can lead to mortality of adults and young birds in the nest. Additionally, vehicle use and maintenance can result in the spill of toxic fluids. Ingestion of toxic fluids by condors can result in death. The potential for these impacts would be avoided or minimized with implementation of the following conservation measures, which are proposed as part of the proposed action to directly or indirectly minimize or eliminate potential adverse direct or indirect effects of the proposed action specific to California condors.

PG&E would work with USFWS to ensure that, if condors were to visit the project area, appropriate measures would be in place such as:

- All fuels, fluids, and components with hazardous materials/wastes shall be handled in accordance with applicable regulations. All such materials shall be kept in segregated storage with secondary containment as necessary. Records of storage and inspection shall be maintained and shall provide for proper offsite disposal. Hazardous materials shall be stored in a neat, orderly manner in their appropriate containers in an enclosed and secured location such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. The portable hazardous materials storage cabinets may be moved with each block of development, as deemed necessary.
- Project personnel shall collect all project-related litter, small artificial items, and food waste from the project area on a regular basis.

Mammals.

Bats. There is suitable habitat for bats in the oak trees in the project area. APM Biology-29 has been superseded by mitigation measure Biology-29 to define appropriate methods to passively relocate roosting bats. Mitigation measure Biology29 would minimize the potential for impacts to be less than significant.

Mitigation Measure Biology-29 (proposed to supersede APM Biology-29).-Pre-construction surveys, *i.e*. visual encounter surveys using binoculars, shall be conducted for all areas that provide suitable bat roosting habitat, including man-made structures, snags, rotten stumps, mature trees with broken limbs, trees with exfoliating bark, bole cavities or hollows, dense foliage, *etc.* Sensitive habitat areas and roost sites shall be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary.

If suitable roosting habitat is identified, the following measures shall be conducted.

1. A qualified biologist shall survey suitable roost sites immediately prior to the removal or grading of rock outcroppings, debris piles, man-made structures, *et.c*
2. Removal of suitable tree roost sites shall be conducted by first removing limbs smaller than 3 inches in diameter and peeling away loose bark. The tree shall then be left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period.
3. A qualified biologist shall survey the trees/snags a second time the following morning prior to felling and removal.
4. Trees shall be removed outside of the breeding season, *i.e.* from September 1 to March 1, to avoid disturbance to maternal colonies.

American Badger. Suitable foraging and denning/burrowing habitat exists in the proposed project area for the American badger. A permanent loss of habitat may occur as a result of construction of the proposed switching station, towers, poles, and access road; grading and clearing activities; and use of laydown areas. APM Biology-31 has been superseded by mitigation measure Biology-31 to define appropriate methods to monitor active dens. Mitigation measure Biology-31 would ensure that no direct mortality to American badgers occurs and that impacts to the American badger are less than significant.

Mitigation Measure Biology-31 (proposed to supersede APM Biology-31). A qualified biologist will survey the project area for badger dens prior to construction. If a badger den is found, the biologist will monitor the den to determine if it is actively being used by a badger. The biologist will determine this based on visual observation of the burrow or using camera traps to document its presence. Since badgers frequently changes dens, the biologist will monitor active dens to determine when the badger(s) is no longer using the den. If it is determined to be an active breeding den, a 250 foot exclusion buffer will be established and CDFG will be contacted to determine how to proceed. If no badger dens are found or if potential dens are determined not to be active, no further mitigation is necessary.

Critical Habitat. There is no designated critical habitat for any federally listed species in the project area; therefore, no proposed or designated critical habitat would be directly modified or destroyed.

Critical habitat for the federally threatened south/central California coast ESU steelhead occurs in Gabilan Creek, and sedimentation in runoff from the project area could indirectly affect this critical habitat. Implementation of APMs Biology-11, Biology-15, Biology-19, and Biology-20

would ensure that impacts to critical habitat for the steelhead are reduced to a less than significant level.

APM Biology-11. PG&E will design the project to avoid the intermittent drainages and seasonal wetlands to the extent practicable. However, where impacts to the drainages and wetlands cannot be avoided PG&E will provide compensation as required by the USACE, USFWS, CDFG, and RWQCB.

APM Biology-19. Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.

APM Biology-20. Best Management Practices such as silt fencing, hay bales, or fiber rolls, will be placed near the intermittent drainages and seasonal wetlands to prevent sedimentation runoff from flowing into Gabilan Creek.

Operation and Maintenance

Operation and maintenance of the proposed project would not include ground-disturbing activities or any other activities that would impact special-status species. No impact would occur.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

Construction

Construction of the proposed project could have temporary and/or permanent impacts on riparian habitat and other sensitive natural communities. Quantified impacts to sensitive vegetation communities are summarized in Table 3.5-4.

Northern Mixed Chaparral/Maritime Chaparral. Construction in the work areas and pull sites, installation of the new permanent access road, and the temporary access road, and installation of temporary shoo-fly structures would result in the temporary loss of approximately 3.3 acres of northern mixed chaparral/maritime chaparral; however, APMs Biology-1 through Biology-5, Biology-9, Biology-10, and Biology-15 minimize the loss of this habitat by reducing the risks of

Table 3.5-4: Impacts to Sensitive Vegetation Communities

Habitat Type	Approximate Impact Acreage	
	Permanent	*Temporary*
Northern mixed chaparral/Maritime chaparral	0.0	3.3
Seasonal wetland	0.1	0.5
Intermittent drainage	0.0	0.4
Coastal and valley freshwater marsh	0.0	0.0

SOURCE: TRC 2010f

introducing invasive species to the site, accidentally crushing vegetation by straying outside of the designated work areas, and spilling hazardous materials on the site. Impacts would be less than significant with implementation of mitigation measures Biology-6, Biology-8, Biology-17, and Biology-32 by limiting clearing and grading activities to the designated work areas, requiring implementation of a WEAP, implementing focused plant surveys and any protection measures identified in such surveys, and requiring that all vehicles be regularly cleaned and inspected for leaks and the potential to carry invasive species to the site.

Seasonal Wetland, Intermittent Drainage, and Coastal and Valley Freshwater Marsh. Approximately 0.1 acre of seasonal wetland would be permanently lost due to construction of the permanent access road. Approximately 0.5 acre of seasonal wetland and approximately 0.4 acre of intermittent drainage leading to Gabilan Creek would be temporarily affected due to project construction. Implementation of APMs Biology-1 through Biology-5, Biology-9, Biology-10, Biology-11, and Biology-15 would minimize potential effects to these drainages. Implementation of APMs Hydrology-1 and Hydrology-2 would reduce impacts by implementing worker environmental awareness training and a SWPPP.

Implementation of mitigation measures Biology-6, Biology-8, Biology-17, and Biology-32 would reduce the potential for direct impacts to seasonal wetlands and intermittent drainages and potential indirect impacts to Gabilan Creek to less than significant levels by limiting clearing and grading activities to the designated work areas, requiring implementation of a WEAP, implementing focused plant surveys and any protection measures identified in such surveys, and requiring that all vehicles be regularly cleaned and inspected for leaks and the potential to carry invasive species to the site.

Operation and Maintenance

Operation and maintenance of the proposed project would not include ground-disturbing activities or any other activities that would impact riparian or sensitive natural communities; therefore, no impact would occur.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

Approximately 0.1 acre of seasonal wetland would be permanently lost due to construction of the permanent access road. Approximately 0.5 acre of seasonal wetland and approximately 0.4 acre of intermittent drainage would be temporarily affected due to project construction. Implementation of APMs Biology-1 through Biology-5, Biology-9, Biology-10, Biology-11, Biology-15, Hydrology-1, and Hydrology-2 would minimize effects to jurisdictional waters by reducing the risks of introducing invasive species to the site, accidentally crushing vegetation by straying outside of the designated work areas, spilling hazardous materials on the site, avoiding intermittent drainages to the extent possible, providing environmental awareness training to all construction workers on the site, and implementing all appropriate best management practices.

Mitigation measures Biology-6, Biology-8, Biology-17, and Biology-32 would reduce the potential for impacts to seasonal wetlands, intermittent drainages, and Gabilan Creek to less than significant levels by limiting clearing and grading activities to the designated work areas, requiring implementation of a WEAP, implementing focused plant surveys and any protection measures identified in such surveys, and requiring that all vehicles be regularly cleaned and inspected for leaks and the potential to carry invasive species to the site.

Operation and Maintenance

Operation and maintenance of the proposed project would not include any activities that would impact federally protected wetlands; therefore, no impact would occur.

d) Would the project 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 wildlife nursery sites?

Construction

General Wildlife. Direct mortality of general wildlife species could occur during construction as a result of increased vehicular and foot traffic and use of heavy construction equipment. Some wildlife species, particularly avian species, could also be exposed to electrocution risks. Some wildlife species are expected to leave the immediate vicinity of the project area once construction starts and would instead use the substantial amount of nearby unaffected habitat. As a result, minimal to no direct mortality is expected to occur to general wildlife as a result of the project.

Implementation of APMs Biology-9, Biology-10, Biology-11, Biology-15, Biology-16, Biology-19, Biology-20 would help to minimize impacts to general wildlife by requiring pre-construction surveys for sensitive resources, requiring that a qualified biologist monitor all ground-disturbing construction activities near sensitive resources, avoiding drainages, wetlands, and aquatic habitat to the extent feasible, implementing procedures for the handling of hazardous materials, and implementing a Fire Prevention and Response Plan. APM Biology-30 has been superseded by mitigation measure Biology-30 which would require agency approval on appropriate corrective actions to be included in the Avian Protection Plan. Mitigation measures Biology-8, Biology-21, Biology-27, Biology-28, Biology-29, Biology-30, Biology-31, Biology-32, Biology-37, Biology-38, and Biology-39 would minimize effects to migratory wildlife. Impacts to general wildlife populations would be temporary and less than significant.

Fish Species. No fish species are expected to be affected by construction activities because no construction activities would occur in Gabilan Creek, Lagunita Lake, or the unnamed pond; however, should sedimentation runoff flow into Gabilan Creek, fish could potentially be indirectly affected. Implementation of APMs Biology-11, Biology-12, Biology-13, Biology-14, Biology-19, and Biology-20 would ensure that impacts to fish species would be less than significant.

APM Biology-12. Work in aquatic or wetland habitat is limited to the installation of the permanent access road in the wetland located adjacent to San Juan Grade Road. All ground-disturbing work at this location will take place in dry conditions.

APM Biology-13. PG&E will obtain coverage under the Construction Storm Water Permit Program and implement BMPs for erosion and sediment control.

APM Biology-14. A Stormwater Pollution Prevention Plan (SWPPP) will be developed that describes sediment and hazardous materials control, fueling and equipment management practices, and other factors deemed necessary for the project. Erosion control measures will be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, and waters of the state, as well as aquatic habitat occupied by sensitive species. Erosion control measures will be monitored on a regularly scheduled basis, particularly during times of heavy rainfall. Corrective measures will be implemented in the event erosion control strategies are inadequate. Sediment/erosion control measures will be continued in the project area until such time that soil stabilization is deemed adequate. Brush or other similar debris material will not be placed within any stream channel or on its banks. No project work activity is planned within the limits of any stream channel.

Avian Species. Bird collisions with manmade structures have been reported in scientific literature for over a century. A number of bird collision studies have been performed at power lines. These studies suggest that the primary factor in determining the number of birds colliding with a power line is the number of birds flying through the area.

It is generally expected that collision mortality is greatest where the movements of susceptible species are the greatest. The potential for raptors to use the project area and surrounding habitat varies from low to high. The coastal scrub, open non-native grasslands, northern mixed chaparral, and coast live oak woodlands provide suitable breeding, nesting, and foraging habitat for bird species. Implementation of APMs Biology-9, Biology-27, and Biology-28 would ensure that impacts from bird collisions are less than significant.

Noise and activity, including the use of a helicopter, associated with construction of the proposed switching station could cause disturbance to other avian species that are not designated as special-status species (e.g., passerines). Work performed near foraging habitat and the noise of a helicopter could cause some birds to disperse, but this would be a temporary and less than significant impact.

Construction and helicopter activities also have the potential to cause nest abandonment if nests are present, and removal of trees and vegetation could potentially destroy nests and disturb nesting birds. Species covered under the MBTA are protected, and nest abandonment and destruction may result in a significant impact. Implementation of APMs Biology-9, Biology-10, and Biology-27 would reduce effects by preparing pre-construction bird nesting and sensitive resources surveys, implementing the recommendations from these surveys, and having a qualified biologist present for all ground-disturbing construction activities near sensitive resources. Mitigation measures Biology-6 and Biology 30 would reduce impacts to nesting passerine species to a less than significant level by limiting clearing and grading activities to designated work areas and by implementing an Avian Protection Plan.

Mitigation Measure Biology-30 (proposed to supersede APM Biology-30). If following the implementation of the agency-approved Avian Protection Plan and implementation of PG&E's most current version of Bird and Wildlife Protection Standards, a bird electrocution still occurs at the project site, PG&E will implement the following corrective actions as outlined in the Avian Protection Plan Implementation document:

1. PG&E will notify the USFWS and CDFG of a bird strike for any special-status species and any raptor species within 3 working days of the discovery.
2. If a raptor or a special status species bird is electrocuted on distribution (pole or mid-span), transmission, or substation facilities, the first line supervisor or designee (incident investigator) shall visit the incident site as soon as possible following the incident. The incident investigator shall be qualified, because of knowledge, training, and work experience, to evaluate and assess bird-related incidents, poles, or other structures.
3. The incident investigator will recommend retrofits with avian-safe devices if the incident involved a raptor and schedule any retrofit work to be completed as soon as practical, based on material availability, facility accessibility, clearances, etc.
4. If avian program management personnel determine that certain poles or structures present a particularly high risk to raptors, they may require that work to make the poles or structures avian-safe be completed within 30 days or less. The criteria for making this determination may include, but is not limited to, the following circumstances:
    a. Electrocuted eagle, threatened, or endangered species
    b. Multiple raptor electrocutions at the same location
    c. Multiple electrocutions in close proximity and within a recent time frame
    d. Agency requests

Mitigation Measure Biology-37. Monitoring guidelines will be provided in an Avian Protection Plan to be submitted to the USFWS and CDFG for review and approval prior to construction. Documentation of Plan approval will be submitted to the CPUC for recordkeeping.

Mitigation Measure Biology-38. To reduce the risk of bird electrocution and bird strikes, installation of the new distribution line and the reconfigured power lines will conform to PG&E's most current version of Bird and Wildlife Protection Standards, and may include the use of bird guards.

Mitigation Measure Biology-39. To minimize disturbance due to helicopter operations, PG&E will avoid helicopter flights near known active nesting bird sites as determined in consultation with the USFWS and/or CDFG.

Operation and Maintenance

Bird electrocutions occur when a bird simultaneously contacts two conductors of different phases or contacts a conductor and a grounded part of the structure. This contact happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these elements. Most lines that electrocute raptors are energized at voltage levels between 1 kV and 69 kV. The project power lines are insulated for operation at 115 kV and the resulting phase separation (greater than 60 inches) effectively precludes bird electrocutions.

Although the non-energized metal structures in a switching station are grounded, birds and climbing animals can be electrocuted by contacting energized conductors from grounded equipment. Specialized surveys of bird- and animal-caused outages in the United States have

focused on problems that wildlife causes to substations, which contain energized conductors from grounded equipment similar to that of a switching station. These surveys indicate that most problems in substations are caused by tree squirrels, raccoons, domestic cats, and birds, especially starlings, blackbirds, and pigeons. Raptors are rarely electrocuted at substations or switching stations, other than an occasional hawk or owl attempting to roost or feed on the equipment. In a qualitative survey of animal-caused outages at PG&E substations, squirrels, raccoons, and birds were identified as the primary cause. Electrocutions of wildlife as a result of the project would be rare. Mitigation measures Biology-30 and Biology-38 would ensure impacts from bird electrocutions are less than significant by implementing an Avian Protection Plan and by requiring that the new distribution line and the reconfigured power lines conform to PG&E's most current version of Bird and Wildlife Protection Standards.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Construction

The Monterey County Zoning Requirements Section 21.64.260 titled Preservation of Oak and Other Protected Trees Ordinance provides regulations for the protection and preservation of oak trees and other specific types of trees. The project area is located in the North County Area Plan. Protected trees under this Plan include oaks or madrones greater than six inches in diameter measured two feet above ground level. Landmark oak trees are those trees which are 24 inches or more in diameter when measured two feet above the ground, or trees that are visually significant, historically significant, or exemplary of their species. Relocation or replacement of protected trees is required on a one-to-one basis. However, County policies and regulations do not apply to public utility projects approved by the CPUC.

Approximately 30 oak trees would be removed as part of the project. Implementation of APM Biology-7, mitigation measures Biology-6 and Biology-40, and mitigation measure Aesthetics-10 would reduce tree impacts to a less than significant level by including tree replacement.

> **Mitigation Measure Biology-40.** Oak tree removal shall be avoided to the maximum extent possible. In agreement with the Monterey County Preservation of Oak and Other Protected Trees Ordinance, oak trees will be replaced at a one-to-one ratio or as determined in consultation with Monterey County. Prior to construction, oak trees greater than 6 inches in diameter at two feet above ground level that need to be removed within the work areas shall be enumerated to determine the total number of individuals affected. A description of the species, diameter at two feet above ground level, estimated height, and general health of the trees to be removed shall be recorded. Oak trees will be replaced or transplanted at a one-to-one ratio as shown in the Conceptual Landscaping Plan (Figure 3.1-4). As detailed in mitigation measure Aesthetics-10, PG&E shall submit to Monterey County, and work closely with the County on, a full set of plans and specifications based on the Conceptual Landscape Plan presented on Figure 3.1-4 prior to construction.

Operation and Maintenance

Operation and maintenance of the proposed project could require occasional tree trimming if surrounding vegetation interferes with the electrical system or creates a safety hazard. Tree trimming would have no impact on local policies and ordinances.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no Habitat Conservation Plans, Natural Community Conservation Plans, or other governmental habitat conservation plans discussed in the Monterey County General Plan that involve the project area. No impact would occur.

3.6 Cultural Resources

3.6.1 ENVIRONMENTAL SETTING

Information presented in this section was compiled from *Cultural Resources Investigation for the Crazy Horse Switching Station Project, Monterey County, California* (Garcia and Associates 2010).

Regional Historical and Ethnographic Overview

Prehistory

Overview. The archaeological record of the Central Coast region indicates that intense human occupation occurred well before Spanish and European explorers arrived in the eighteenth century. In the 1970s, researchers began to record numerous prehistoric sites throughout the Central Coast region, most of which were identified through subsurface investigations associated with development (Jones et al. 2007). Recent archaeological findings indicate that the Central Coast cultures are contemporaneous with those in and around the larger Central California region (Breschini and Haversat 1980).

Paleo-Indian Period (before 8000 B.C.). Paleo-Indian Period occupations are marked by an abundance of small, leaf-shaped, and lanceolate projectile points, casual flake tools, ochre, and hammerstones. Although occupation dates as many as 13,000 years ago have been identified in charcoal deposits through radiocarbon dating, it is likely these dates are inaccurate due to use of unreliable samples such as unstratified deposits and non-feature-related sources.

Millingstone Period (8000-3500 B.C.). The Millingstone Period is defined by an assemblage of eccentric crescents, bi-pointed leaf-shaped bifaces, unifaces, cobble/core tools, heavy use of basalt and quartzite, ochre, milling equipment, and fire-affected rock (Bryne 2002). The majority of documented Millingstone Period sites are close to the coastline. Almost all interior sites from this period contain marine shell, suggesting a strong coastal connection. There are few recorded sites from this period of prehistory within the Central Coast, and they provide only questionable charcoal dates.

Early, Middle, and Late Period (3500 B.C.-1769 A.D.). The artifact assemblages and adaptations for the Early and Middle Periods are heavily associated with "Hunting Culture," as indicated by the presence of large assemblages of projectile points and bifaces. The Late Period represents a decline in bead manufacturing as seen in the small numbers of bead drills and Olivella bead manufacturing debris. Archaeologists have observed a dense distribution of interior occupation sites during this period.

Ethnography

The Native Americans who inhabited the project area prior to Spanish entry in 1769 are referred to as Costanoans, or Ohlone, as the Native American community refers to themselves. "Costanoan" refers to an ethnolinguistic group of people that lived in the area from San Francisco to Big Sur on the Central Coast and eastward into the Central Valley. The Costanoans spoke a language considered to be one of the eight major subdivisions of Miwok-Costanoan, which belongs to the Utian family within the Penutian language stock (Shipley 1978).

The introduction of European-Americans to the area created a poor living environment for the Ohlone community, which started to suffer from new diseases and significantly reduced birth rates (Milliken 1995; Goerke 2006). There were no traditionally functioning Ohlone tribal groups remaining by the time secularization occurred in 1834.

The Ohlone community has recently undergone a period of revitalization. The tribe has not received formal recognition from the federal government; however, it is becoming increasingly organized and has developed an active interest in preserving its ancestral heritage. Descendants of the Ohlone currently are living in the project area. Many of these descendants are active in maintaining their traditions and advocating for Native American issues.

Historic Period

Spanish and Mexican Periods (1769-1846). Spanish and Mexican exploration of the Monterey region began with the Portolá expedition in 1769. The Spanish established the nearby Monterey presidio and mission in 1770 and 1771. California became a Mexican Territory in 1822 and the mission lands became private ranchos as a result of the new Mexican land grant system. The Salinas area included several large land grants during the rancho period of Mexican rule in California (Monterey County Historical Society 1989).

American Period Occupation and Early Salinas (1846-1900). California became an American territory in 1850 after the Mexican-American War of 1846 to 1848. After California joined the United States, the rancho owners continued to work their land and raise cattle until severe droughts in the 1860s depleted the cattle supply. This event forced the rancho owners to sell their land, which led to more diversified land ownership of smaller tracts (Monterey County Historical Society 1989).

Early Twentieth Century (1900-1930). A number of events during the early twentieth century changed the Salinas built environment. New masonry buildings included steel frames as a protective measure against future temblors after suffering impacts from the 1906 earthquake. Construction of the US 101 corridor occurred in 1915, 15 years after the automobile appeared in Salinas. The automobile played a large role in altering the existing circulation routes and allowed residents of Salinas to reside further from the workplace.

Industry in the Salinas area began to change from the production of hides and tallows to agricultural goods. Reclamation Ditch 1665 was constructed in 1917 and allowed for marshland to be converted to farmland. New crops like lettuce and artichoke were introduced into the area in the 1920s (City of Salinas 2002). These new crops increased the demand for irrigation.

Defining Archaeological and Historical Resources

Cultural resources in California are recognized as non-renewable resources that require management to assure their benefit to present and future Californians.

Discretionary actions undertaken by state or local governments in California, unless otherwise exempted, must comply with CEQA Statutes and Guidelines. Enacted in 1971, CEQA directs lead agencies to first determine whether a cultural resource is "historically significant." In the protection and management of the cultural environment, CEQA guidelines provide definitions

and standards for cultural resources management. The term "historical resource" has the following definitions:

1. A resource listed in, or determined to be eligible by, the State Historical Resources Commission for listing in the CRHR.
2. A resource included in a local register of historical resources or identified as significant in a historical resource survey shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site area, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a cultural resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR, including any the following:
   - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
   - Is associated with the lives of persons important in our past;
   - Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
   - Has yielded, or may be likely to yield, information important in prehistory or history.

The term "unique archaeological resource" has the following meaning under CEQA

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> 1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information,
> 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type, or
> 3. Is directly associated with a scientifically recognized important prehistoric or historical event or person [Public Resources Code Section 21083.2(g)].

Methodology

Archaeological and Historical Resources

Record Search Results. A record and background search of the project area was conducted on September 26, 2008, at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). Additionally, on behalf of the applicant, an architectural

historian contacted the Monterey County Historical Society in Salinas, California, in October 2008 with a request to search its files and records regarding cultural resources within the project area and obtain a list of individuals who might have interest or information concerning the area's prehistory and history. There has been no response from the Monterey County Historical Society to date.

Nine previous cultural resources investigations conducted within 0.5 mile of the project area were identified in the records search. These studies encompassed several thousand acres of land. No new significant cultural resources were identified in these surveys.

Two historical landmarks are located within a 0.5-mile radius of the project area:

1. California Historical Landmark No. 651, the site of the Battle of Natividad, is located 0.5 mile from the project area at the intersection of San Juan Grade Road and Crazy Horse Canyon Road. The Battle of Natividad took place on November 16, 1846, during the Mexican-American War.
2. San Juan Grade Road is part of the Juan Bautista de Anza National Historic Trail. Members of the 1775 to 1776 Spanish Expedition traveled this 1,210-mile-long overland route on the way to San Francisco. These families founded and established the Mission and Presidio of San Francisco, the Mission of Santa Clara, and the Pueblo of San Jose. The proposed permanent access road and an existing access road are located approximately 5 to 10 feet from San Juan Grade Road.

Results of Field Inventory. An initial pedestrian survey of the project area was conducted on October 7 and 16, 2008. Additional proposed work areas were surveyed on March 20, 2009, and March 3, 2010. The surveys were completed using parallel transects spaced 10 to 15 meters apart. Approximately 15 meters on the southern perimeter of Tower 37/230 were not surveyed due to the presence of dense poison oak growth. No previously undocumented cultural resources were identified within the project area.

Native American Consultation

The Native American Heritage Commission (NAHC) in Sacramento was contacted in September 2008 to determine if any sites recorded in NAHC's Scared Lands File are located in or near the project area. The NAHC stated in its October 2008 response that there are several sites located within the project area and supplied a list of local Native American tribal representatives with interest in and possible knowledge of the area and sites. Letters and maps were sent to the individuals on the list on October 6, 2008, to inform them of the project and to request comments or information about the project area. Copies of the letters are included in the PEA (TRC 2010). No responses to these letters have been received as of the date of this document.

Paleontological Resources

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on Earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. They include mineralized, partially mineralized, or unmineralized bones and teeth, soft

tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. The fossil record is the only evidence that life on Earth has existed for more than 3.6 billion years.

Fossils are considered nonrenewable resources because the organisms they represent no longer exist. Once destroyed, a fossil can never be replaced.

Paleontologic "sensitivity" is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the rock unit in producing significant fossils, and fossil localities that are recorded from that unit. Paleontologic sensitivity is assigned based on fossil data collected from the entire geologic unit, not just at a specific site. Specific criteria for the paleontology sensitivity analysis are summarized below:

- **High sensitivity:** High sensitivity is assigned to geologic formations known to contain paleontological localities with rare, well-preserved, critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleobiology and evolutionary history (phylogeny) of animal and plant groups. Generally, high-sensitivity formations produce vertebrate fossil remains or are considered to have the potential to produce such remains.
- **Moderate sensitivity:** Moderate sensitivity is assigned to geologic formations known to contain paleontological localities with poorly preserved or stratigraphically unimportant fossil material, or material known to be common elsewhere. The moderate sensitivity category is also applied to geologic formations that are judged to have a strong but unproven potential for producing important fossil remains.
- **Low sensitivity:** Low sensitivity is assigned to geologic formations that, based on their relatively youthful age and/or high-energy depositional history, are judged to be unlikely to produce important fossil remains. Typically, low-sensitivity formations produce poorly preserved invertebrate fossil remains in low abundance.

There are no geologic formations in the project area that are anticipated to be of high sensitivity. The majority of the project area is underlain by alluvium, fan deposits, and dune deposits (see Section 3.7, Geology and Soils) with moderate to low sensitivity. The main fossil-bearing deposits in the vicinity of the project area are the Purisima Formation, the Vaqueros Group, and the San Lorenzo Group.

3.6.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined by CEQA Guidelines §15064.5?	☐	☒	☐	☐

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*	☐	☒	☐	☐
c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*	☐	☒	☐	☐
d) *Disturb any human remains, including those interred outside of formal cemeteries?*	☐	☐	☒	☐

Impacts

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined by CEQA Guidelines §15064.5?

Construction

No significant historical resources, as defined by CEQA Guidelines §15064.5, are known to exist within the project area. San Juan Grade Road, which is part of the Juan Bautista de Anza National Historic Trail, would be used to access the project area. Project-related use of the road would be similar to the existing use of the road and would not create a new or significant impact to the landmark.

Construction has the potential to damage previously undiscovered historical resources through ground-disturbing activities. APMs Cultural-1 and Cultural-2 have been superseded by mitigation measures Cultural-1 and Cultural-2, which require training for and protection of potential paleontological resources and unique archaeological and historical resources in the project area.

Implementation of mitigation measures Cultural-1 and Cultural-2 would reduce potential impacts to historical resources to a less than significant level.

Mitigation Measure Cultural-1 (proposed to supersede APM Cultural-1). PG&E shall design and implement a Worker Environmental Awareness Program that shall be provided to all project personnel who may encounter and/or alter unique archaeological properties, historical resources, or paleontological resources, including construction supervisors and field personnel. No construction worker shall be involved in field operations without having participated in the Worker Environmental Awareness Program. The Worker Environmental Awareness Program shall include, at a minimum:

1. A review of archaeology, history, prehistory, and Native American cultures associated with historical resources in the project vicinity.
2. A review of photographs and figures of potential historical resources, unique archaeological properties, and paleontological resources in the project area.

3. A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to historical preservation.
4. A discussion of procedures to be followed in the event that unanticipated paleontological or cultural resources are discovered during implementation of the project.
5. A discussion of disciplinary and other actions that could be taken against persons violating historical preservation laws and PG&E policies.
6. A statement by the construction company or applicable employer agreeing to abide by the Worker Environmental Awareness Program, PG&E policies, and other applicable laws and regulations.

The Worker Environmental Awareness Program may be conducted in concert with other environmental or safety awareness and education programs for the project. Worker Environmental Awareness Program training materials and/or presentations shall be submitted to the CPUC for review and recordkeeping requirements prior to the start of training sessions and prior to the start of construction.

Mitigation Measure Cultural-2 (proposed to supersede APM Cultural-2). In the unlikely event that previously unidentified cultural or paleontological resources are uncovered during implementation of the project, all work within 165 feet (50 meters) of the discovery shall be halted and redirected to another location. PG&E's cultural resources specialist, paleontological resources specialist, or his/her designated representative shall inspect the discovery and determine whether further investigation is required. If the cultural discovery can be avoided and no further impacts would occur, then the cultural resource shall be documented on California Department of Parks and Recreation cultural resource record forms and no further effort shall be required. If the cultural resource cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance and CRHR eligibility of the resource and implement data recovery excavation or other appropriate treatment measures if warranted. Similarly, if the paleontological resource is significant, but can be avoided and no further impacts shall occur, then the paleontological resource shall be documented in the appropriate paleontological resource records and no further effort shall be required. If the paleontological resource is significant, but cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance of the paleontological resource and implement data recovery excavation or other appropriate treatment measures as recommended by a qualified paleontologist.

Operation and Maintenance

Operation and maintenance activities would not require ground disturbance; therefore, no impacts to historic resources would occur.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Construction

No significant archaeological resources are known to exist within the project area. Construction has the potential to damage previously undiscovered archaeological resources, as defined by

CEQA Guidelines §15064.5, through ground-disturbing activities. Implementation of mitigation measures Cultural-1 and Cultural-2 would reduce potential impacts to a less than significant level.

Operation and Maintenance

Operation and maintenance activities would not require ground disturbance; therefore, no impacts to archaeological resources would occur.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Construction

Grading and excavation activities primarily would occur within alluvial sediments (loamy sand and sandy loam) and the Aromas Red Sands Formation. Neither of these units are likely to contain fossils. The Holocene alluvial sediments are classified as low sensitivity for significant fossil discoveries. Some excavation activities also could occur in the Pliocene Purisima Formation, which has a moderate sensitivity for significant fossils. Paleontological resources are considered nonrenewable resources and any damage or disturbance to a resource potentially would be significant.

The potential for impacts to paleontological resources would be limited due to the low paleontologic sensitivity of the geologic units and the lack of significant fossil discoveries in the project site vicinity. Impacts would be further reduced to a less than significant level with the implementation of mitigation measures Cultural-1 and Cultural-2.

Operation and Maintenance

Operation and maintenance activities would not require ground disturbance; therefore, no impacts to paleontological resources would occur.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Construction

No cultural resources with the potential to contain human remains are known to exist within the project area. If human remains are identified during project construction, the project would comply with all applicable federal, state, and local laws that govern the procedures involved in the notification, recovery, and handling of human remains and unmarked graves. The project includes APM Cultural-3, which requires work activities to cease in the event that remains are encountered, and would reduce impacts to a less than significant level.

APM Cultural-3. In the event human remains are encountered during the project, work within 50 feet of the find will be halted and the County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage Commission, who will then designate a Most Likely Descendent. The Most Likely Descendent will consult with PG&E's archaeologist to determine further treatment of the remains.

Operation and Maintenance

Operation and maintenance activities would not require ground disturbance; therefore, no impacts to human remains would occur.

This page is intentionally left blank

3.7 Geology and Soils

3.7.1 ENVIRONMENTAL SETTING

Geology and Physiography

The proposed project site is located in Monterey County, in the northern portion of the Salinas Valley, which is bounded by the Gabilan Range to the east and the Santa Lucia Mountains to the west. Topography within the County is extremely varied, with elevations ranging from sea level to 5,844 feet above msl at Junipero Serra Peak in the Santa Lucia Range. The site is located in an area with low to moderate rolling hills that is transitional between the broad, relatively flat floodplain of the Salinas River to the southwest near Salinas and the steeper topography of the Gabilan Range to the northeast (USGS 1955). The approximate elevation of the site, located in a northwest-oriented valley between low hills to the southwest and northeast, is 330 feet above msl (USGS 1955). Four intermittent drainages and three seasonal wetlands are located in the project area (TRC 2010). Two of the drainages flow into Gabilan Creek on the south side of San Juan Grade Road.

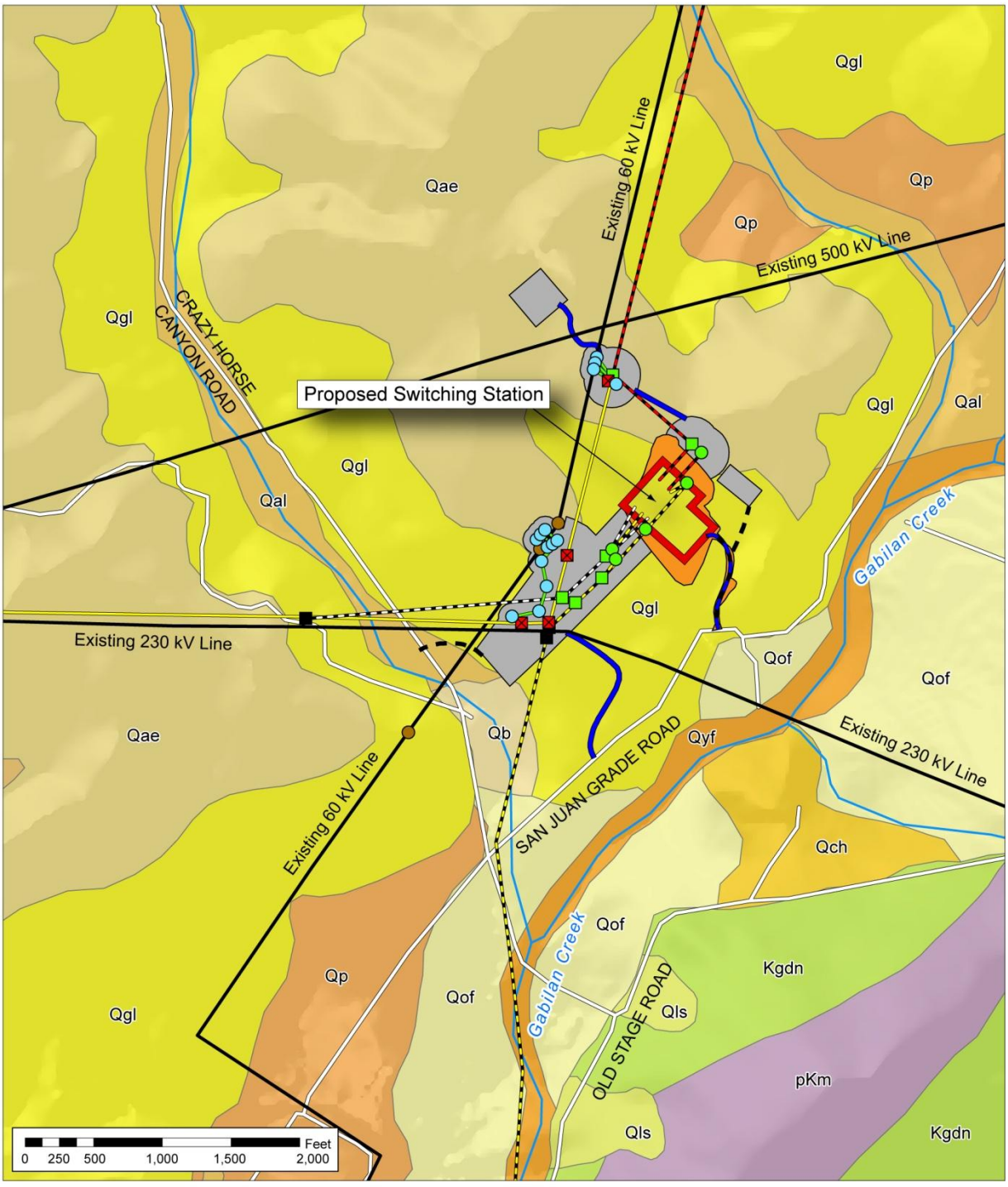
Monterey County is located in the Coast Ranges Province, which consists of structurally complex, subparallel, northwest-trending faults, folds, and mountain ranges. The Coast Ranges Province is bounded by the Great Valley Province to the east, the Pacific Ocean to the west, and the Transverse Ranges Province to the south. In this portion of the Coast Ranges Province, the Pacific plate moves north relative to the North American plate and deformation along this plate boundary is distributed across a wide fault zone that includes the San Andreas, Hayward, Calaveras, and San Gregorio fault zones.

Geologic Setting and Units

The project is located in a geologically complex, seismically active region underlain by alluvial deposits, cross-bedded sands, fossiliferous gravels, interbedded sandstones and volcanic rocks, and granitic, metamorphic, and limestone basement (Allen 1946). The basement geology at the project site predominantly consists of pre-Jurassic granodiorite and quartz diorite of the Gabilan Range that is exposed at ground surface north of the project site. During the Pleistocene, weathered granitic rock was washed downslope and deposited as an alluvial fan along stream channels that previously occupied the project site. The resulting fanglomerate deposits consist of moderately to well consolidated, deeply weathered, moderately to well graded sand, silt, and well-rounded gravel and cobbles.

Geologic mapping and subsurface exploration by Kleinfelder (2010) indicate that the valley within which the project would be constructed is underlain by Pleistocene Aromas Red Sands, which consist of aerially deposited sand dunes, and fanglomerate deposits, which consist of moderately cemented, dense, well-graded clayey sands with varying clay, gravel, and cobble content. The Aromas sands form the generally north-trending ridge crests in the area. In the project site vicinity, the Aromas deposits consist of poorly graded, fine-grained sand that is highly weathered and oxidized to a reddish hue. The geologic units are described in more detail in Appendix D and are illustrated on Figure 3.7-1.

Figure 3.7-1: Geologic Units in the Project Area



SOURCE: Rosenberg 2001, PG&E 2010, USGS 2010, and RMT Inc. 2010

LEGEND

*Please Refer to Legend Information on the Following Page

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.7-1: Legend: Geologic Units in the Project Area

SOURCE: Rosenberg 2001, PG&E 2010, and RMT Inc. 2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Soils Types and Hazards

Soil Types

The U.S. Department of Agriculture (USDA) NRCS has mapped soils in the project area (USDA 2010). The project site is located in the Salinas Valley, which consists primarily of unconsolidated Quaternary deposits. Erosion of the Gabilan Mountains to the east and the Santa Lucia Mountains to the west has been the source of the soils that form the alluvial plain upon which Salinas rests. These deposits were derived from the Salinas River and its tributaries, basin and tidal flat sediments, and eolian or dune sediments.

The major surficial soil units in the project area are the Arnold loamy sand (AkF), the Gloria sandy loam (GhF), and the Arroyo Seco gravelly loam (AvA) (USDA 2010). Surficial soils at the proposed project site were logged by Kleinfelder (2010) as silty and clayey sands with pebble-size gravel. The soils in the project area are illustrated on Figure 3.7-2, while the slopes in the project area are shown on Figure 3.7-3. Major characteristics of each soil series are summarized in Table 3.7-1.

Expansive and Collapsible Soils

Expansive soils contain significant amounts of clays that expand when wetted. Expansive soils can cause damage to foundations if moisture collects beneath structures. Surface soils in the project area primarily consist of sandy loams and loamy sands with low to moderate shrink-swell potential. The potential for encountering expansive soils at the project site generally is low.

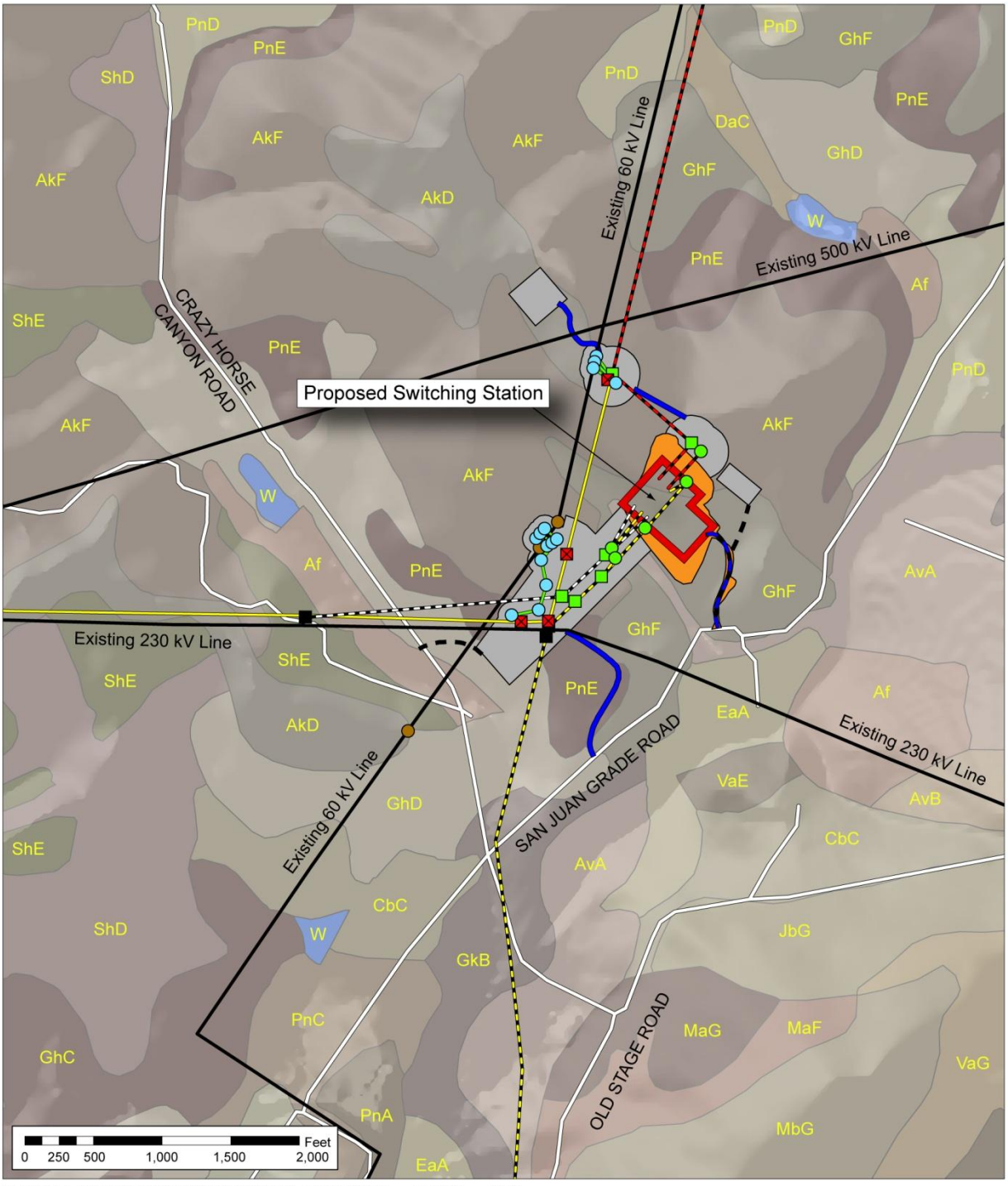
Soil collapse occurs when increased moisture causes chemical or physical bonds between the soil particles to weaken, which allows the structure of the soil to collapse and the ground surface to subside. Collapsible soils are generally low-density, fine-grained combinations of clay and sand left by mudflows that have dried, leaving tiny air pockets. When the soil is dry, the clay is strong enough to bond the sand particles together. When the clay becomes wet, moisture alters the cementation structure and the soil's strength is compromised, causing collapse or subsidence. The potential for mudflows at the proposed project site is low because it is not located downslope from steep canyons in which a mudflow could originate; therefore, collapsible soil deposits are not likely present in the project area.

Erosion

Erosion is the process by which rocks, soil, and other land materials are abraded or worn away from the earth's surface over time. The erosion rate depends on many factors, including soil type, geologic parent material, slope, soil placement, vegetation, and human activity.

The majority of the project site, including the area within the proposed grade and fill boundary, is dominated by surficial soil deposits consisting of sandy loam and loamy sand, which have a high erosion potential (USDA 2010). Deeper fanglomerate deposits, as logged by Kleinfelder (2010), are relatively dense, but are sand-rich and, therefore, susceptible to erosion when exposed or cut.

Figure 3.7-2: Soils in the Project Area



SOURCE: USDA/NRCS 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

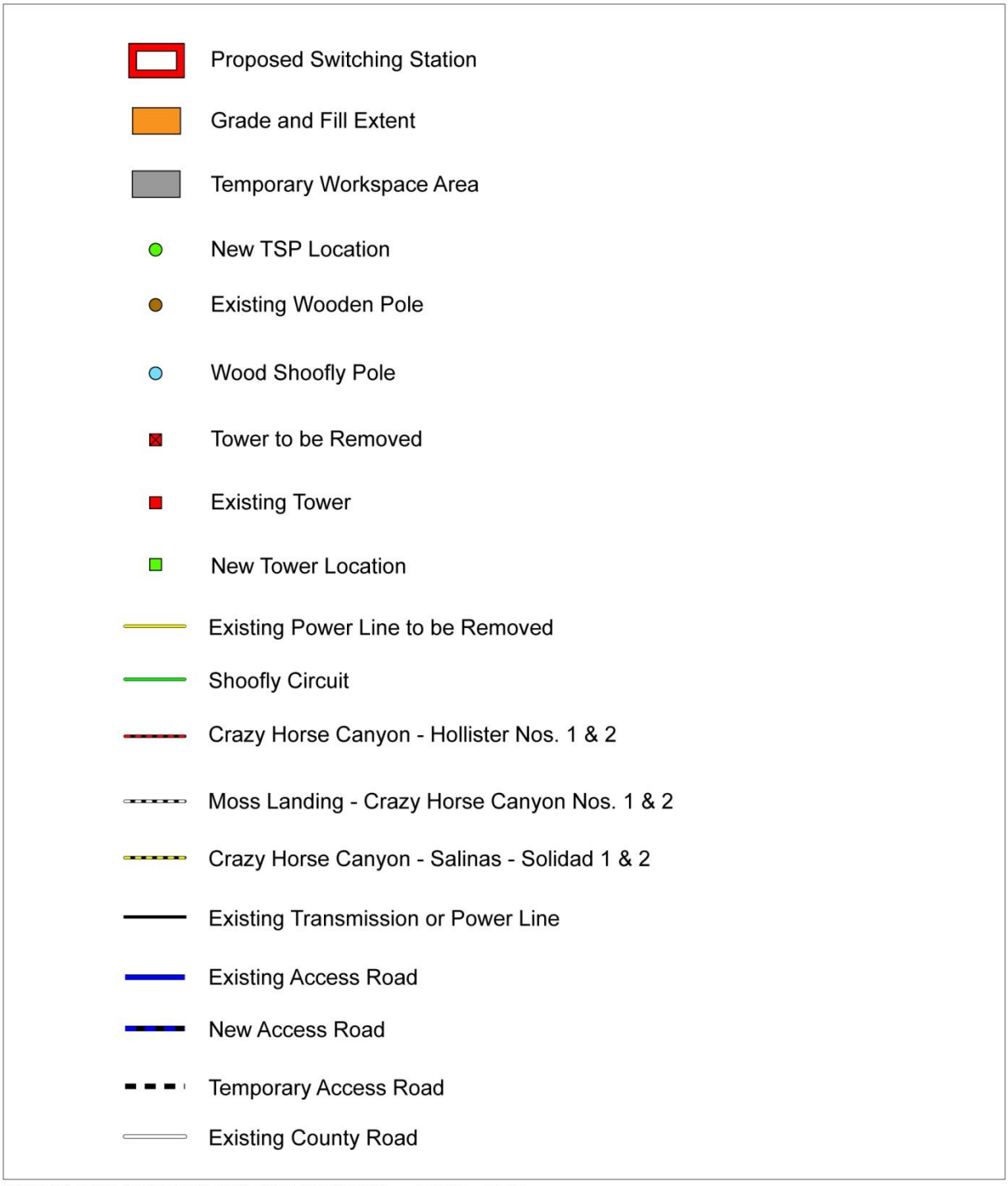
LEGEND

*Please Refer to Legend Information on the Following Page

*Soils Legend in Appendix D

RMT
ENVIRONMENT • ENERGY • ENGINEERING

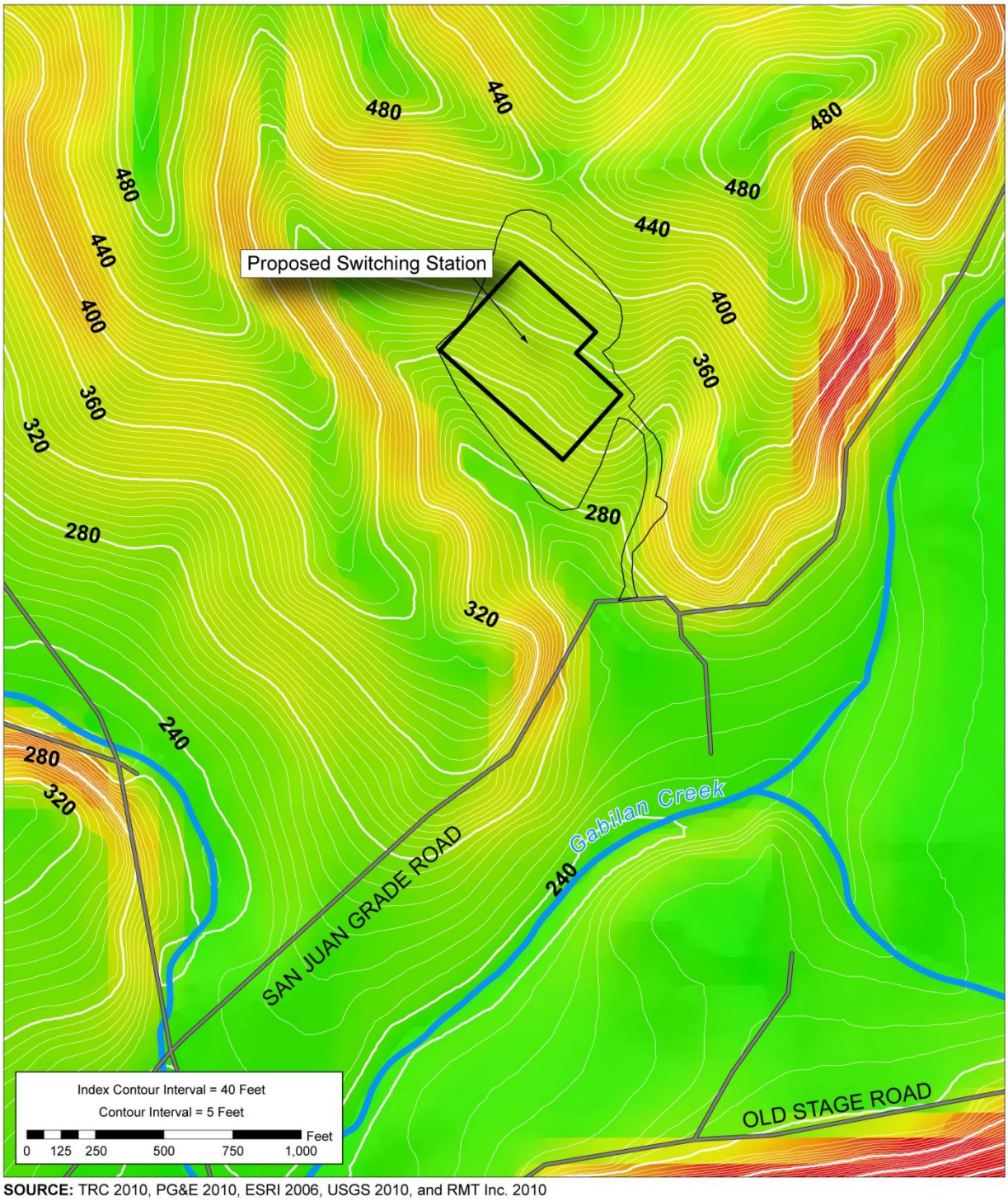
Figure 3.7-2 Legend: Soils in the Project Area



SOURCE: USDA/NRCS 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.7-3: Slopes in the Project Area



SOURCE: TRC 2010, PG&E 2010, ESRI 2006, USGS 2010, and RMT Inc. 2010

LEGEND

Slope (Degrees)
High: 40
Low: 0

Proposed Switching Station
Grading and Fill Extent
Creek / River
County Road

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Table 3.7-1: Characteristics of Soil Units in the Project Area

Soil Series	Description	Slope	Runoff Rate	Shrink-Swell Potential	Erosion Potential
Arnold loamy sand (AkF)	Excessively drained soils formed on hills and uplands in old marine dune sands or in materials weathered from soft sandstone	15 to 50 percent	Rapid	Low	High
Gloria sandy loam (GhF)	Well-drained and moderately well drained soils formed in granitic alluvium on benches, terraces, and alluvial fans	15 to 50 percent	Rapid	Moderate	High
Arroyo Seco gravelly loam (AvA)	Well-drained soils formed in granitic alluvium on level with floodplains and alluvial fans	0 to 2 percent	Slow to moderate	Low	Low

SOURCE: USDA 1978

Subsidence

Subsidence is deep-seated settlement due to the withdrawal of fluid (oil, natural gas, or water). Subsidence can sometimes be measured in tens of feet and typically occurs in broad valleys underlain by thick sequences of alluvial sediments. There is little evidence of widespread subsidence in Monterey County (ICF Jones & Stokes 2008).

Landslides

A landslide is defined as the slipping down or flowing of a mass of land (rock, soil, and debris) from a mountain or hill. Landslide potential is high in steeply sloped areas underlain by alluvial soils, thinly bedded shale, or bedrock where the bedding planes are oriented in an out-of-slope direction (bedding plane angles that are greater than horizontal, but less than the slope face).

The proposed project site is located in an area with a low potential for landslides (ICF Jones & Stokes 2008). Based on the results of the geotechnical investigation, which included subsurface exploration and geologic mapping, Kleinfelder concluded that there are no large or deep-seated landslides at the site. Several shallow surficial slumps, less than 5 feet in thickness, were mapped at the project site; however, they do not appear to have moved far from their source areas.

Seismicity and Faults

The project area is located in a seismically active region with several active and potentially active faults. The predominant northwest-trending structures of the Coast Ranges Province, in which the project area is located, are related to the San Andreas Fault transform boundary, which separates two major tectonic plates. The main feature of the boundary is the San Andreas Fault Zone, a right-lateral strike-slip fault zone located approximately 5.8 miles northeast of the project site at its closest point. The fault system is considered to be the primary seismic hazard in California and has

historically caused significant damage in the project region. Large earthquakes were recorded in 1838, 1865, 1890, 1906, and 1989. There is a 21 percent chance of a magnitude 6.7 or greater earthquake occurring along the northern branch of the San Andreas Fault within the 30-year period from 2009 to 2039 (2007 WGCEP 2008).

The Alquist-Priolo Earthquake Fault Zoning Act designates earthquake fault zones based on the presence of a sufficiently active and well-defined fault. The California Geological Survey (CGS) developed criteria to classify fault activity for the Alquist-Priolo Earthquake Fault Zoning Act. By definition, an active fault is one that is "sufficiently active and well-defined," with evidence of surface displacement within Holocene time (about the last 11,000 years) (Hart and Bryant 2007). The nearest designated Alquist-Priolo Fault Hazard Zone is a segment of the San Andreas Fault Zone located approximately 5.8 miles northeast of the project site. Currently, there are no designated Alquist-Priolo faults in the immediate project area.

A potentially active fault displaces Quaternary deposits (last 1.6 million years). Potentially active faults also represent possible surface rupture hazards, although to a lesser degree. In contrast to active or potentially active faults, faults considered inactive have not moved in the last 1.6 million years.

Active and potentially active faults located within approximately 35 miles of the project area and surrounding region are included in Appendix D and are shown on Figure 3.7-4. Approximate distances from the project site to the faults and Maximum Credible Earthquake magnitude for each fault are also listed in the geotechnical investigation (Appendix D). The proposed switching station site is not underlain by any active or potentially active faults. Fault rupture potential in the project area is considered low. The nearest potentially active fault is the Zayante-Vergeles fault, located approximately 2.3 miles north. Additionally, Kleinfelder (2010) did not observe any evidence of active faulting at the site. The risk of surface rupture at the proposed project site is low.

Ground Motion

An earthquake along any of the fault zones listed in the Kleinfelder report (2010) is capable of generating very strong ground motion or shaking at the proposed project site. The project site is located in a region that is expected to undergo moderate to severe earthquake shaking (2007 WGCEP 2008).

Approximate ground motion parameters were estimated for the project alignment. The parameters presented in Table 3.7-2 represent a 10 percent probability of being exceeded during a 50-year period. They are expressed as a fraction of the acceleration due to gravity (g). Three ground motion values are shown: peak ground acceleration (PGA), short-period (0.2-second) spectral acceleration (Sa), and moderately long-period (1.0-second) spectral acceleration. PGA is a measure of earthquake acceleration experienced by a particle located on the ground. Sa is an approximation of the earthquake acceleration experienced by a building. Each ground motion value is shown for three site conditions: firm rock, soft rock, and alluvium. The proposed project is underlain primarily by alluvium and soft rock (Kleinfelder 2010).

Figure 3.7-4: Regional Faults

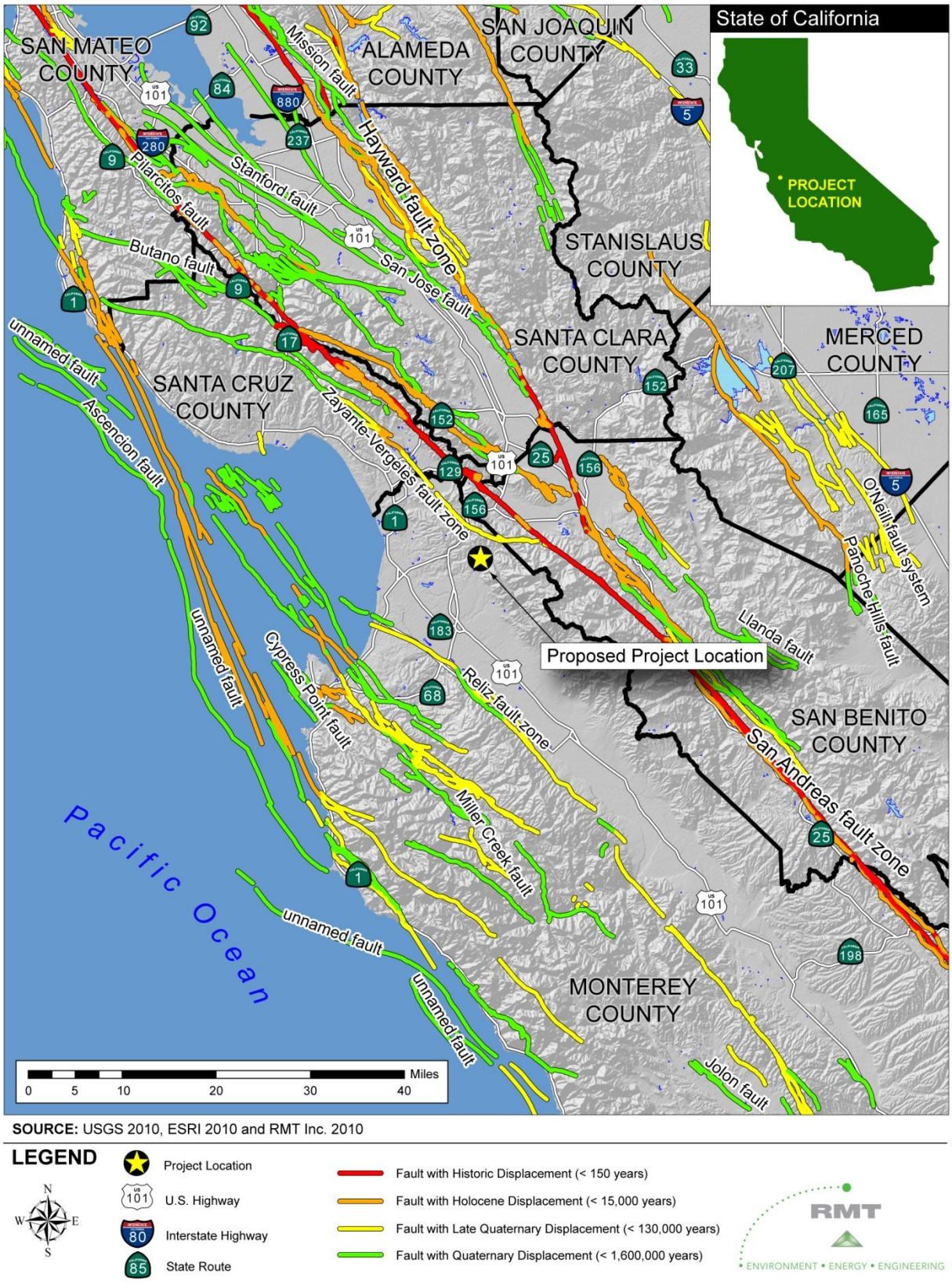


Table 3.7-2: Estimated Ground Motion Parameters at the Project Site

Ground Motion	Firm Rock (g)	Soft Rock (g)	Alluvium (g)
PGA	0.538	0.538	0.538
S_a (0.2-second)	1.226	1.226	1.238
S_a (1.0-second)	0.501	0.595	0.682

SOURCE: CGS 2008

Liquefaction

Liquefaction is a seismic phenomenon in which water-saturated, cohesionless sediments, such as sand and silt, temporarily lose their strength and liquefy. Liquefaction occurs when saturated sediments are subjected to dynamic forces, such as intense and prolonged ground shaking during an earthquake. Liquefaction typically occurs when groundwater is shallow (i.e., less than 50 feet below ground surface) and soils are predominantly granular and unconsolidated. Effects of liquefaction on level ground can include sand boils, settlement, and bearing capacity failures below structural foundations.

Ground shaking strong enough to cause liquefaction is present in alluvial valleys in the County, including the Salinas River and floodplain (ICF Jones & Stokes 2008). The potential for liquefaction in the project area, which is located several miles upslope of the Salinas River floodplain, generally is low. Additionally, Kleinfelder (2010) noted during the geotechnical field investigation that groundwater was not encountered within 50 feet of ground surface, and that site soils are competent enough to resist liquefaction.

Lateral Spreading

Lateral spreading is a phenomenon that involves lateral displacement of large, intact blocks of soil down gentle slopes or toward a steep free face such as a stream bank. Lateral spreading occurs as a result of liquefaction of a shallow underlying deposit during an earthquake. It typically occurs on slopes of 0.3 to 5 percent underlain by loose sands and a shallow water table. Conditions conducive to lateral spreading include gentle surface slope, a shallow water table, and liquefiable, cohesionless soil. These conditions commonly are found along streams banks, canals, or cut slopes in recent alluvial or deltaic deposits. Structures located at the head of the slide may be pulled apart and those at the toe of the slide may buckle or compress. The potential for lateral spreading in the project area is similar to that for liquefaction (i.e., generally low).

3.7.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or loss of topsoil?	☐	☒	☐	☐
c) Be located on a geological 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?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), or collapsible soil, creating substantial risks to life or property?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Impacts

a) Would the project expose people or structures to 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?

The proposed project site is not underlain by any active or potentially active faults. The nearest potentially active fault is the Zayante-Vergeles fault, located approximately 2.3 miles north. The nearest active fault and designated Alquist-Priolo Fault Hazard Zone is a segment of the San Andreas Fault Zone located approximately 5.8 miles northeast of the project site. The risk of fault rupture is greatest in the immediate vicinity of active faults. No recognized active faults underlie the project site; therefore, no impacts from fault rupture would occur.

ii) Strong seismic ground shaking?

Construction

The proposed project is located in a region with several active and potentially active fault zones with a history of strong earthquakes. Peak ground acceleration would vary along the length of the corridor. Severe ground shaking has the potential to cause human injury; however, due to the short duration of construction (16 months) and the low probability of a seismic event occurring during this time, the potential for construction crews to experience strong seismic ground shaking is minimal. Impacts from ground shaking would be less than significant.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Project infrastructure would be designed and installed in accordance with seismic design parameters included in the most recent edition of the California Building Code. Impacts would be less than significant.

iii)Seismic-related ground failure, including liquefaction?

Construction

Ground shaking strong enough to cause liquefaction is present in alluvial valleys in the County, including the Salinas River and floodplain. However, the potential for liquefaction in the project area generally is low. Due to the short duration of construction (16 months) and the low probability of a seismic event occurring during this time, the potential for construction crews to be exposed to seismic-induced liquefaction is minimal. Impacts would be less than significant.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency

conditions, thereby minimizing the amount of foot and vehicle traffic on site. Liquefaction hazards to the switching station and associated infrastructure would be addressed through appropriate standards for excavation, grading, and compaction during construction. Impacts would be less than significant.

iv) Landslides?

Construction

The proposed project site is located in an area with a low potential for landslides. However, the switching station would be located in a valley bounded by low hills. Additionally, site preparation would involve extensive grading to establish a level pad for the station and adjacent work areas, which would involve cuts up to 70 feet and fill up to 40 feet, resulting in a high cut slope in the northeastern portion of the site and 60-foot-high hill slopes on the south and west sides of the site. PG&E's Grading Standards would be implemented to minimize impacts to the project area, and Monterey County's Grading Ordinance would be adhered to during construction.

However, destabilization of natural or constructed slopes could still result from project construction activities, which could contribute to landslide hazards during or immediately following an earthquake. Grading activities would expose fanglomerate deposits, which are sand-rich and susceptible to erosion. Construction design would include the application of appropriate engineering standards to ensure the integrity of the project infrastructure and the various earthen structures (e.g., foundation pad, road base, and drainage benches) in the event of a landslide. The proposed project includes APM Hydrology-2, which would require the development and implementation of a SWPPP and would reduce impacts from erosion and sedimentation that could increase the risk of landslides in the project area, as well as APMs Geology-1, Geology-2, and Geology-3, which would also minimize effects of unstable soils.

APM Geology-1. Surface disturbance will be minimized to the extent consistent with safe and efficient completion of the project scope of work.

APM Geology-2. Topsoil will be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil will be used to reclaim areas of temporary construction disturbance. Once temporary surface disturbances are complete, areas that will not be subject to additional disturbance will be stabilized by landscaping.

APM Geology-3. Erosion control BMPs will be implemented where grading occurs.

Mitigation measures Geology-4 and Geology-5 have been developed to minimize slope instability and minimize impacts from soft or loose soils, respectively, during construction. In addition, mitigation measures Geology-6 would require development of an Erosion Control and Sediment Transport Plan (ECSTP), which would reduce impacts from landslides to a less than significant level.

Mitigation Measure Geology-4. Construction slopes and existing natural slopes impacted by construction operations (e.g., cut and fill and road construction) shall be evaluated for stability. Construction slopes and grading plans shall be designed to limit the potential for slope

instability and minimize the potential for erosion and flooding during construction. Construction activities likely to result in slope instability shall be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.

Mitigation Measure Geology-5. Where soft or loose soils are encountered during construction, appropriate measures shall be implemented to avoid, accommodate, replace, or improve soft or loose soils. Such measures may include, but are not limited to, the following:

1. Locating construction equipment and structures away from areas of soft and loose soil, if possible
2. Over-excavating soft or loose soils and replacing them with engineered backfill
3. Increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction
4. Treating soft or loose soils in place with binding or cementing agents
5. If possible, scheduling construction activities in areas where soft or loose soils are encountered for the dry season to allow safe and reliable equipment access

Mitigation Measure Geology-6. PG&E shall prepare an ECSTP as an element of the SWPPP describing BMPs to be used during construction. PG&E shall ensure all BMPs are inspected before and after each storm event, maintained on a regular basis, and replaced as necessary through the course of construction. The plan shall address construction in or near sensitive areas described in Section 3.5, Biological Resources. BMPs, where applicable, shall be designed based on specific criteria from recognized BMP design guidance manuals. Erosion-minimizing efforts may include, but not be limited to, measures such as:

1. Avoiding excessive disturbance of steep slopes
2. Defining ingress and egress within the project area
3. Implementing a dust control program during construction
4. Restricting access to sensitive areas (e.g., using silt fencing for the protection of wetland features)
5. Using vehicle mats in wet areas
6. Revegetating disturbed areas, where applicable, following construction
7. Proper containment of stockpiled soils (including construction of berms in areas near water bodies, wetlands, or drainage channels)

Erosion control measures identified in the ECSTP shall be installed before clearing begins during the wet season and before the onset of winter rains or any anticipated storm events. Temporary measures such as silt fences or wattles, intended to minimize sediment transport from temporarily disturbed areas, shall remain in place until disturbed areas have stabilized. Such temporary measures shall be placed and monitored by a qualified inspector to ensure effectiveness and timely repair as needed.

PG&E shall keep water equipment such as water trucks and water truck filling areas well maintained and shall make repairs as soon as possible; use water minimally for dust control

and to clean construction areas; sweep and vacuum to the maximum extent possible; and direct runoff to areas where it can be reused or absorbed into the ground. Water for dust control shall be applied at a rate that would not lead to significant water runoff or potentially cause a nuisance.

The ECSTP shall be submitted to the CPUC for review at least 30 days prior to the start of construction. The plan shall be revised and updated as needed, and resubmitted to the CPUC if construction activities change to the point that the existing approved ECSTP does not adequately address the project.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Landslide hazards to the switching station and associated infrastructure would be addressed through appropriate standards for excavation, grading, and compaction during construction. Implementation of mitigation measure Geology-8, which includes provisions for a post-construction drainage plan, would reduce potential impacts from landslides during project operation to a less than significant level.

b) Would the project result in substantial erosion or loss of topsoil?

Construction

Native soils at the project site generally are well to excessively drained and characterized by rapid runoff and high erosion potential. Construction of the proposed switching station would involve grading and cut-and-fill slopes. Grading activities would expose fanglomerate deposits, which, although dense, are sand-rich and susceptible to erosion. The intermittent drainage located on the southwest side of the proposed switching station could potentially erode the toe of the fill slope to be constructed on this side of the site.

Surface disturbance would be minimized to the extent practicable to complete the scope of work safely and efficiently. Erosion control BMPs would be used where grading is performed. Topsoil would be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil would be used to reclaim areas of temporary construction disturbance. Once temporary surface disturbances are complete, areas that would not be subject to additional disturbance would be stabilized with appropriate erosion control measures. PG&E's Grading Standards would be implemented to minimize impacts to the project area, and Monterey County's Grading Ordinance would be adhered to during construction. Additionally, recommendations provided by Kleinfelder in its geotechnical report prepared for the proposed project site (Kleinfelder 2010) regarding site preparation, drainage design, and erosion and runoff minimization would be implemented as appropriate.

Cut slopes and fill slopes would be constructed at an inclination no steeper than 2:1 (horizontal to vertical). All slopes would be protected from erosion and would be constructed to minimize ponding, collect and direct surface and subsurface runoff to discharge points, and maintain

drainage pathways away from project structures and foundations. Drainage controls (e.g., keyways, subdrains, ditches, and benches) would be installed during construction, and would be regularly inspected and maintained during ongoing construction, especially following the winter season and after storm events.

Proposed project plans include the construction of drainage ditches arranged in a two-tiered drainage system outside the perimeters of both the switching station and the grade and fill area. Three overflow outlets (spillways) lined with geofabric and angular rock would carry runoff from the switching station to the ditch around the grade and fill area. From there, runoff would flow overland towards the seasonal wetland downslope of the switching station. Drainage from the area uphill of the site would flow into the ditch surrounding the grade and fill area and be carried south along the east side of the access road, where it would drain into a 10-foot by 10-foot by 1-foot area of riprap prior to flowing through a 30-inch-diameter culvert installed under the access road. The culvert would direct flow overland towards the seasonal wetland downslope of the switching station. Intermittent drainage from the seasonal wetland would flow to Gabilan Creek through an existing culvert under San Juan Grade Road.

The proposed project includes several APMs (APMs Hydrology-2, Biology-2, Biology-3, Biology-11, Biology-12, Biology-13, and Biology-20) that reduce impacts from erosion and siltation. APMs Biology-2 and Biology-3 restrict parking and movement of vehicles and equipment to existing roadways; pre-approved access roads, overland routes, and access areas; and previously disturbed or developed areas or work areas. APMs Biology-11 and Biology-12 restrict work in intermittent drainages and seasonal wetlands, APM Biology-13 requires proper permitting, and APM Biology-20 requires use of BMPs to avoid sedimentation of Gabilan Creek. However, because of the drastic change in topography at the project site, impacts from erosion and siltation may still occur.

Impacts would be reduced to a less than significant level with the implementation of mitigation measures Geology-4 and Geology-6.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Permanent parking for facility inspections and maintenance would be entirely within the switching station site or along the access road at the entrance to the switching station. Project operation and maintenance would not involve activities that would increase the risk of erosion or removal of topsoil at the site. However, the topography of the site would be drastically altered to accommodate project construction. Runoff rates could increase due to the construction of up to 12.2 acres of semipermeable and impermeable surfaces, and erosion could increase as a result. Additionally, the existing culvert installed in the intermittent drainage that crosses San Juan Grade Road and the culvert proposed to be constructed under the new access road could affect stream flow during project operation, causing erosion and siltation in the drainage and vicinity.

Stormwater runoff from the impervious portion of the proposed switching station would travel through a tiered drainage ditch system and would be filtered though angular rock, which would allow for additional settlement of suspended solids. Overland flows from uphill of the site would be slowed and filtered by passing through riprap prior to flowing off site through a 30-inch-diameter culvert installed under the new access road. The proposed project includes APM Aesthetics-2, which would require recontouring and revegetating of areas disturbed during construction and would reduce erosion and runoff following project start-up. Significant erosion still could occur. Implementation of the components of the maintenance plan will be required in the SWPPP and ESCTP (APM Hydrology-2 and mitigation measure Geology-6, respectively) and would reduce impacts from erosion and siltation during project operation and maintenance to a less than significant level.

c) Would the project 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?

Construction

Destabilization of natural or constructed slopes could occur as a result of construction activities. Cut-and-fill operations associated with pad construction would alter existing slope profiles, which could make them unstable as a result of over-excavating slope material, steepening slopes, or increased loading. Construction design would include identification of landslide hazard areas and appropriate engineering standards would be applied to ensure the integrity of slopes and project infrastructure. With implementation of mitigation measures Geology-4, Geology-5, and Geology-6, impacts from landslides and collapse would be less than significant.

The potential for liquefaction and associated lateral spreading in the project area generally is low. Impacts would be less than significant.

There is little evidence of widespread subsidence in Monterey County. Less than 1 inch of total settlement, including less than 0.5 inch of differential settlement, may occur on the foundation pad, which would be minimized during construction by over-excavating and placing the material back as engineered fill. Impacts from subsidence would be less than significant.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Landslide hazards to the switching station and associated infrastructure would be addressed through appropriate standards for excavation, grading, and compaction during construction, as well as through implementation of the proposed drainage plan. The potential impacts from landslides and collapse during project operation would be reduced to a less than significant level. Impacts from liquefaction, lateral spreading, and subsidence during project operation would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), or collapsible soil, creating substantial risks to life or property?

Soils at the project site dominantly consist of sandy loam and loamy sand. The risk of encountering expansive or collapsible soils at the project site is low. Additionally, the pad to be constructed for the switching station and associated work areas would involve cut-and-fill operations. Cut slopes would be over-excavated and replaced as engineered fill, and fill slopes would consist of native soils or tested import fill. All fill placed on site would be placed and compacted in accordance with standard construction practices (e.g., compact to either 90 or 95 percent of maximum dry density, place fill in 6- to 8-inch lifts, and remove all organic material and other debris from all engineered fill). Standard construction practices would be used to mitigate hazardous soil conditions, if encountered. Impacts would be less than significant.

e) Would the project 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?

No septic tanks or alternative wastewater disposal systems (e.g., leach fields) would be constructed as part of the project. No impact would occur.

This page is intentionally left blank

3.8 Hazards and Hazardous Materials

3.8.1 ENVIRONMENTAL SETTING

The project is located northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road, north of the City of Salinas in Monterey County. The project site is located within active pastureland in a valley between two hill crests. The area surrounding the project is predominantly rural.

Hazardous Sites

A review of the California Department of Toxic Substances Control EnviroStor Database and the SWRCB Geotracker database did not identify any hazardous material sites located on the project site, including the proposed construction work areas. No known or suspected hazardous material sites were identified within a 1-mile radius of the proposed project site. The closest known active hazardous site is the Crazy Horse Canyon Landfill, approximately 2 miles northwest of the project site.

Fire Hazards

The project is located in open areas susceptible to wildland fires and is designated as a High Fire Hazard Zone by the California Department of Forestry and Fire Protection (CALFIRE). According to the most recent fire hazard severity zone map available on the CALFIRE website, the closest Very High Fire Hazard Severity Zone is located approximately 0.4 mile south-southeast of the project site (CALFIRE 2010).

Existing PG&E transmission lines and station facilities are designed and constructed with grounding devices. In the event of a lightning strike on a transmission line, this safety feature ensures that the strike is redirected to ground where it can be absorbed.

Emergency Access

There are no known emergency response plan staging areas or exit routes in the project vicinity as identified by the Monterey County Office of Emergency Services (Monterey County Office of Emergency Services 2010). The Office of Emergency Services is responsible for initiating and coordinating disaster and emergency preparation, response, recovery, and mitigation operations within the County. Access to work areas during construction would be via Crazy Horse Canyon Road. The project location can be accessed via existing dirt roads or by traversing private pasturelands.

Airports and Airstrips

The project is not located within 0.25 mile of any existing or proposed airports or private airstrips. The closest airport is the Salinas Municipal Airport located in the City of Salinas, approximately 10 miles south of the project site.

Schools

The project is not located within 0.25 mile of any existing or proposed schools. Lagunita Elementary School is located on the west side of San Juan Grade Road, approximately 3,500 feet southwest of the project area.

3.8.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	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?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐
c) Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Impacts

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction

Hazardous materials such as gasoline, diesel, oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids would be required to operate construction equipment and vehicles. Some of these materials may be temporarily stored on site during the construction phase of the project. A list of the types and quantities of hazardous materials anticipated to be stored at the project site during construction would be provided to CPUC staff when available.

PG&E has identified APMs Hazards-1 through Hazards-5 to ensure that any impacts from hazardous materials are minimized to a less than significant level. APMs Hazards-1 through Hazards-4 include requirements for a Hazardous Substance Control and Emergency Response Plan, a site-specific Health and Safety Plan, a Fire Prevention and Response Plan, and an environmental training program. APM Hazards-5 would require implementation of a monitoring program to ensure that the plans are implemented throughout the construction period.

APM Hazards-1. PG&E will submit a Hazardous Substance Control and Emergency Response Plan to the CPUC for recordkeeping at least 30 days prior to project construction. The plan will identify methods and techniques to minimize the exposure of the public to potentially hazardous materials during all phases of project construction through operation. The plan will require implementing appropriate control methods and approved containment and spill-control practices (i.e., spill control plan) for construction and materials stored on-site. All hazardous materials and hazardous wastes will be handled, stored, and disposed of, in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. If it is necessary to store any chemicals on-site, they will be managed in accordance with all applicable regulations. Material Safety Data Sheets will be maintained and kept available on-site, as applicable.

APM Hazards-2. PG&E will prepare a site-specific Health and Safety Plan to ensure that potential safety hazards would be kept at a minimum. The plan will include elements that establish worker training and emergency response procedures relevant to project activities. The plan will be submitted to the CPUC at least 30 days prior to construction for CPUC recordkeeping.

APM Hazards-3. PG&E will prepare and submit a Fire Prevention and Response Plan to the CPUC and to local fire protection authorities for notification at least 30 days prior to construction. The plan will include fire protection and prevention methods for all components of the project during construction. The plan will include procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, use of flammable materials, and smoking onsite during construction and maintenance procedures. Project personnel will be directed to park away from dry vegetation; to equip vehicles with fire extinguishing equipment; not to smoke; and to carry water, shovels, and fire extinguishers in times of high fire hazard.

APM Hazards-4. An environmental training program will be established to communicate to all field personnel any environmental concerns and appropriate work practices, including spill prevention and response measures and BMPs. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific plans, including but not limited to the project's Hazardous Substances Control and Emergency Response Plan, SWPPP, Erosion Control and Sediment Transport Plan, and Health and Safety Plan.

APM Hazards-5. A monitoring program will be implemented to ensure that the plans are followed throughout the construction period. BMPs, as identified in the project's SWPPP and Erosion Control and Sediment Transport Plan, will be implemented during the project to minimize the risk of an accidental release and to provide the necessary information for emergency response.

Operation and Maintenance

Hazardous materials anticipated to be used during switching station operation are listed in Table 3.8-1.

Table 3.8-1: Hazardous Materials Used for Switching Station Operation

Type	Container	Estimated Quantity
Pb	Contained within lead-acid batteries	60 batteries
Sulfuric acid	Contained within lead-acid batteries	60 batteries
SF_6	Contained within circuit breakers	540 pounds
Oils	Contained within instrument transformers	8 gallons per transformer, for 23 transformers
Oils	Contained within service transformers	80 gallons per transformer, for 23 transformers

SOURCE: TRC 2010

The switching station would be equipped with lead-acid batteries to provide backup power during power outages. These batteries contain sulfuric acid and heavy metals such as lead and arsenic. The batteries would be located in a battery building on the switching station site. Containment would be constructed under and around the battery racks within the battery building to prevent the release of hazardous materials in the event of a leak or rupture. Any potential impacts from the release of battery acid would be contained and, therefore, would be less than significant.

SF_6 gas is used as an insulator and arc suppresser for circuit breakers. Under normal conditions, it is completely contained in the equipment. Although SF_6 is relatively inert and non-toxic, it is considered a GHG. SF_6 would only be released if there is a leak in one of the joints in the circuit breaker tank or if there is a crack in the breaker. In either case, the loss of gas pressure/density would send an alarm directly to the control center. This alarm would enable operators to respond and minimize the loss of SF_6. PG&E would also incorporate APMs from Section 3.4, Greenhouse Gases, to further reduce the potential for release of SF_6. Impacts would be less than significant.

There would be a total of 23 transformers on the site, including 20 instrument transformers (CCVT) and 3 station service transformers (SSVT). Instrument transformers would be located within the switching station and would contain mineral oil in 8-gallon reservoirs that would be completely contained within each instrument transformer unit. Service transformers would also be located within the switching station, and would contain 80 gallons each of mineral oil that would be completely contained within each service transformer unit. In the unlikely event that a transformer leaks onto the site's gravel surface, the oil-contaminated gravel would be removed from the site and properly disposed of according to all regulations and requirements, and the impact would be less than significant.

The proposed switching station could pose an electric shock hazard to site trespassers. This hazard would only be present near the switching station equipment and would not extend off site to the general public. To minimize potential exposure to electric shock hazards, a 7-foot-tall chain link fence topped with 1 foot of barb wire would restrict site access. Warning signs would be posted to alert persons of potential electrical hazards. The power lines would be designed in accordance with CPUC's General Order 95 Guidelines for safe ground clearances established to protect the public from electric shock. These precautions would minimize the risk of electric shock and potential impacts would be less than significant.

b) Would the project 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?

Construction

Soil, surface water, and groundwater quality could be impacted by an accidental release of one or more hazardous materials from a vehicle or motorized piece of equipment used during construction. Additionally, a release of liquid concrete during foundation construction activities could wash into nearby waterways or infiltrate the soil. Implementation of APMs Hazards-1 through Hazards-5, as well as APMs Biology-1 through Biology-4, Biology-14, Biology-15, and

Biology-19 would ensure that potential impacts from an accidental release of hazardous materials would be less than significant.

PG&E would use standard BMPs (e.g., secondary containment, crew training, proper handling procedures, and immediate response to any spills) to ensure soil, surface water, and groundwater quality would not be affected by an accidental release of hazardous materials. A monitoring program would be implemented to ensure that the plans are followed throughout the construction period. BMPs, as identified in the SWPPP, also would be implemented to minimize the risk of an accidental release and to provide the information necessary for emergency response. Impacts would be less than significant.

Operation and Maintenance

Hazardous materials identified in Table 3.8-1 used during project operation may be accidentally released into the environment. Implementation of structural BMPs (e.g., secondary containment) and non-structural BMPs (e.g., emergency response procedures) would address the proper precautions necessary to mitigate any accidental releases and the impact would be less than significant.

c) Would the project produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

There are no existing or proposed schools located within 0.25 mile of the project. No impact would occur.

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

No known or suspected hazardous materials sites were identified on the project site that could create a significant hazard to the public or the environment. No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport. No impact would occur.

f) For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The project is not located within the vicinity of a private airstrip. No impact would occur.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project would not be located on any identified hazard materials transportation routes or emergency response routes as identified by the Monterey County Office of Emergency Services. No impact would occur.

h) Would the project expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Construction

The project is located in open areas susceptible to wildland fires. Heat or sparks from vehicles or equipment have the potential to ignite dry vegetation and cause a fire. Vehicles and equipment would be primarily limited to existing roads to access the switching station site. The roads would be cleared of dry vegetation during initial grading activities minimizing potential fire hazards.

APM Hazards-3 would require that PG&E prepare and submit a Fire Prevention and Response Plan to the CPUC and to local fire protection authorities for notification at least 30 days prior to construction. The plan would include fire protection and prevention methods for all components of the project during construction. The plan would include procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, minimizing use of flammable materials, and banning smoking on site during construction and maintenance procedures. Project personnel would be directed to park away from dry vegetation; to equip vehicles with fire extinguishing equipment; to refrain from smoking; and to have quick access to water, shovels, and fire extinguishers at times of high fire hazard. By following these preventative measures, the potential for fire would be less than significant.

Operation and Maintenance

Because switching station and power line operation involves the conduction of electricity, operation would present a potential fire hazard. Incidents, such as downed power lines or equipment failure, could generate sparks and start a fire. However, the risk of fire would be extremely low because such incidents are very rare. PG&E would install high-speed relay equipment that senses a broken line condition and actuates circuit breakers to de-energize the line in milliseconds. The area within the switching station would be maintained to be free of all vegetation and combustible materials, and the power line would remain clear of vegetation as required by the CPUC. The switching station would not be manned, and would not be constructed of combustible materials. Fire-related impacts are not anticipated and the project would have a less than significant impact.

This page is intentionally left blank

3.9 Hydrology and Water Quality

3.9.1 ENVIRONMENTAL SETTING

Regional Setting

The proposed project site is located in an area with low to moderate rolling hills that is transitional between the broad, relatively flat floodplain of the Salinas River to the southwest near Salinas and the steeper topography of the Gabilan Range to the northeast. The approximate elevation of the site is 330 feet above msl (USGS 1955). The site is located in a northwest-oriented valley between low hills to the southwest and northeast.

The project site is located within the watershed of Gabilan Creek (USGS 1955) in La Natividad Grant Hydrologic Unit 18060011. The overall flow of drainage in Monterey County is from south to north, in the direction of flow of the Salinas River (Monterey County Water Resources Agency 2002). The project is located upslope from Gabilan Creek. Intermittent drainages and wetlands located on the project site drain into Gabilan Creek. The lower part of the creek flows into a seasonal lake (Carr Lake) in the middle of Salinas, located about 5 miles from the project site, and then becomes channelized into "The Reclamation Ditch[1]," which flows into the Salinas River and then eventually into Monterey Bay.

Climate and Precipitation

Monterey County is characterized by warm, dry summers and cool, moist winters and has an average temperature of 56 degrees Fahrenheit (Monterey County Water Resources Agency 2002). Many of the County's rivers, creeks, and streams are dry during the summer months. Most precipitation falls between November and April. The average annual precipitation of 13 to 14 inches in Salinas represents the seasonal rainfall pattern for a 64-year period (1931 to 1995) (World Climate 2010).

Surface Water Bodies

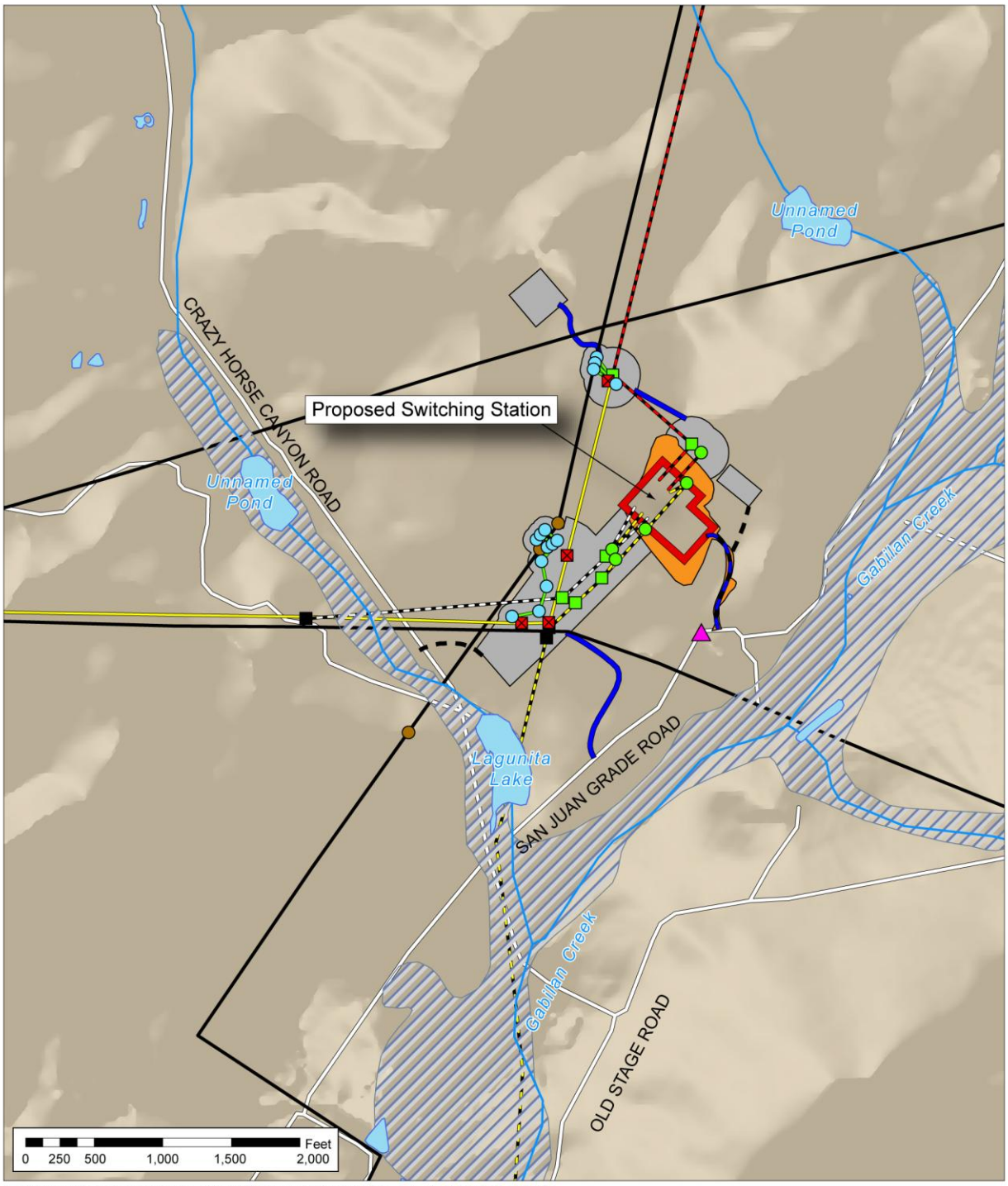
Creeks and Streams

At its nearest point, Gabilan Creek is less than 0.25 mile south of the proposed switching station site, on the south side of San Juan Grade Road. Gabilan Creek has a drainage area of 36.7 square miles. The creek generally has intermittent flow between October and mid-May. During the summer months of an average year, the creek is very dry or experiences almost negligible flows. The natural flow is affected by small diversions, storage reservoirs, and return flow from irrigated areas. Stream discharge varies by water year, with extremes in the water years of 1972 and 1998. For the period of record from 1971 to the present, the highest discharge recorded was 239 cubic feet per second (cfs) in February 1998, recorded at USGS Gauging Station 11152600, located approximately 1.75 miles southwest of the project site. The annual mean discharge at this station is approximately 5 cfs. In the drought of 1972, the mean discharge was 0 cfs (USGS 2010).

Creeks and other hydrologic features in and near the project area are shown on Figure 3.9-1.

[1] The Reclamation Ditch is a group of excavated earthen channels and lakes that are used to drain surface runoff generated in the watershed.

Figure 3.9-1: Hydrologic Features of the Project Area



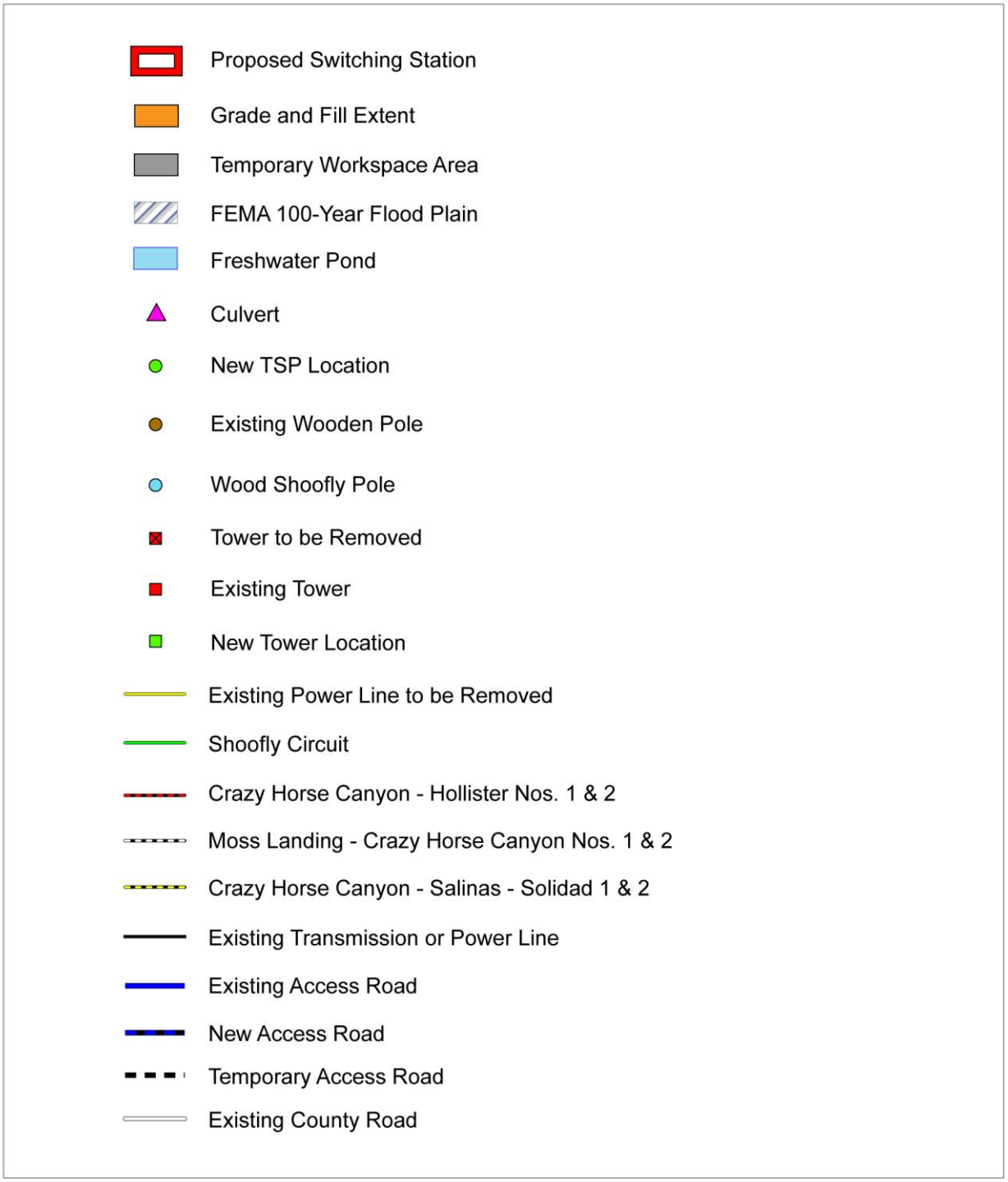
SOURCE: NWI 2010, FEMA 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

LEGEND

*Please Refer to Legend Information on the Following Page

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.9-1 Legend: Hydrologic Features of the Project Area



SOURCE: NWI 2010, FEMA 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Drainages and Wetlands

Natural depressions accumulate runoff and hill slope seepage during wet periods, forming intermittent drainages and seasonal wetlands. Intermittent drainages do not convey flows during extended dry periods. Four intermittent drainages (two of which are USACE jurisdictional) totaling approximately 0.108 acre were delineated within the wetland delineation study area (TRC 2010). These features are part of a larger drainage complex that includes seasonal wetlands. Surface water runoff associated with these features eventually flows off site through an existing culvert under San Juan Grade Road into Gabilan Creek.

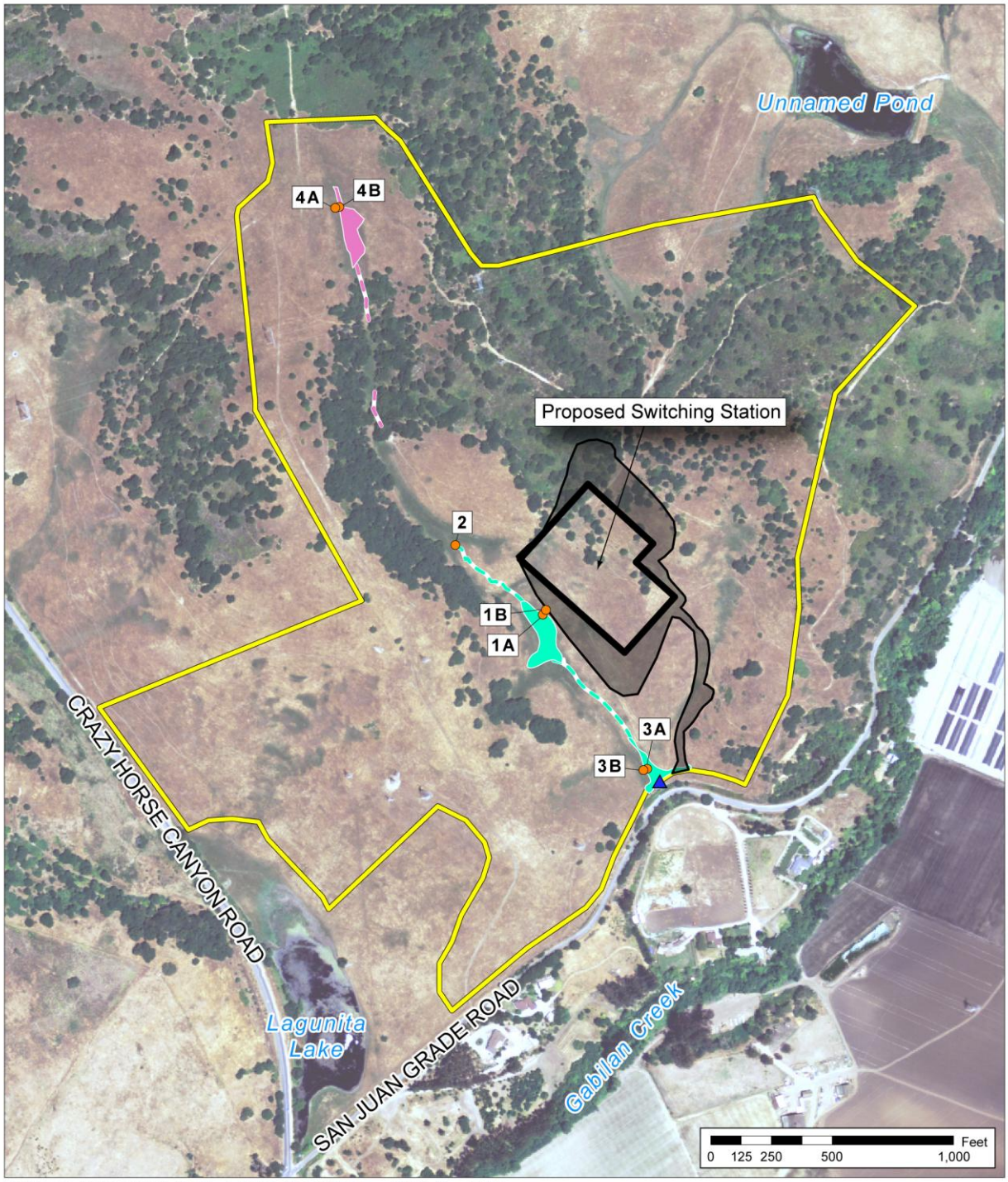
An intermittent drainage is located on the southwest side of the proposed switching station location. Additional intermittent drainages would be spanned by various power lines connecting to the switching station. Associated structures (i.e., both existing and replacement towers and poles) are located outside of the drainages. A wetland delineation map (Figure 3.9-2) shows all drainages and wetlands in the project vicinity.

Three seasonal wetlands (two of which are USACE jurisdictional) totaling approximately 1.2 acres were delineated within the wetland study area (TRC 2010). Seasonal wetlands lack a restrictive layer such as a hardpan or claypan; therefore, the hydrologic regime of these features is dominated by long periods of saturated soil conditions rather than inundation. A seasonal wetland is located on the southwest side of the proposed switching station site. The wetland areas are described in detail in the *Delineation of Waters of the United States and Rapanos Analysis* report (TRC 2010). The three wetlands are called SW1, SW2, and SW3 in this report, and are described below:

- SW1 is a 0.538-acre wetland located approximately 100 feet southwest of the proposed switching station site. This wetland spans an intermittent drainage on the southwest side of the station and connects to seasonal wetland SW2 before draining into Gabilan Creek on the south side of San Juan Grade Road.
- SW2 is a 0.251-acre wetland located approximately 400 feet south of the south corner of the proposed switching station site. This wetland spans an intermittent drainage on the southwest side of the station and connects to Gabilan Creek on the south side of San Juan Grade Road.
- SW3 is a 0.404-acre wetland located approximately 1,300 feet northwest of the proposed switching station site. This wetland is not hydrologically connected to the other two seasonal wetlands.

Given the size of the watershed that the features within the study area drain, the volume of water conveyed by wetlands SW1 and SW2 and associated drainages is likely considerable during the wet season and contributes to the flow characteristics of downstream tributaries (i.e., Gabilan Creek). Within the drainage complex, these two wetlands intercept flows from the intermittent drainages and appear to help release flows from the project area in a consistent and even manner, and also have the ability to trap and hold sediments and other pollutants that could reach downstream navigable waters (TRC 2010).

Figure 3.9-2: Wetland Delineation



Lakes, Reservoirs, Ponds, and Canals

Irrigation canals are present in the agricultural fields south of the project area. Two seasonal ponds with small sections of freshwater emergent wetlands identified in the National Wetlands Inventory (USFWS 2010) exist along the small intermittent stream running along Crazy Horse Canyon Road. Lagunita Lake is located at the northeast corner of the intersection of Crazy Horse Canyon Road and San Juan Grade Road, approximately one-third of a mile from the proposed switching station site. An unnamed pond is located approximately 0.5 mile northeast of the proposed switching station site (TRC 2010). There are additional small freshwater ponds in the vicinity of the project area (Figure 3.9-1). There are no reservoirs in the general vicinity of the proposed project site.

Flooding Potential and Dam Failure Inundation Areas

A Special Flood Hazard Area (SFHA), as defined by the Federal Emergency Management Agency (FEMA), is an area of land that has a 1 percent chance of being inundated by a flood during any year, also referred to as a 100-year flood. The switching station site and surrounding poles and towers to be modified, including access roads and temporary work areas, are not located within SFHAs (Figure 3.9-1). A portion of the power line proposed to be removed during power line reconfiguration spans a flood zone on the west side of Crazy Horse Canyon Road. Additionally, portions of two power lines proposed to be reconfigured (western portion of Moss Landing-Crazy Horse Canyon Nos. 1 and 2 115 kV Power Lines and southern portion of Crazy Horse Canyon-Salinas-Soledad Nos. 1 and 2 Power Lines) span this flood zone. No existing or new structures would be located in the flood zone. The nearest SFHA, along Gabilan Creek, is located approximately 0.2 mile from the proposed switching station site.

The Salinas Dam inundation area, along the Salinas River, is located downslope of the project site, approximately 7 miles away (URS Corporation 2007). The Hernandez Dam inundation area, along the San Benito River, is located upslope of the project site, approximately 5.5 miles away (URS 2007). No part of the Gabilan Creek watershed is located within a dam failure inundation hazard area.

Groundwater

Groundwater supplies a majority of the water uses in the Salinas Valley. The California Coastal Basin Aquifer underlies the valley. The project site is located in the 15,400-acre Langley Area Subbasin of the Salinas Valley Groundwater Basin (Department of Water Resources [DWR] Basin No. 3-4.09). Water-bearing units vary in age from Pliocene to Holocene. The primary water-bearing unit of the subbasin is the Aromas Red Sands Formation, which is composed of sand units separated by confining layers of interbedded clays and silty clays. Groundwater recharge is from deep percolation of precipitation in the hills and small drainages of the subbasin. Groundwater generally drains westward from a granitic ridge located at the eastern subbasin boundary (DWR 2003). Soils are dominated by well-drained sandy loams and loamy sands; however, a clay pan that underlies the surface soils provides an impermeable layer resulting in very slow infiltration rates. The total storage capacity of the subbasin is estimated to be approximately 356,000 acre-feet (DWR 2003).

Two groundwater wells are located in the vicinity of the project. One well is located approximately 0.25 mile north of the project site and is used to withdraw water for a cattle trough. The other well is located near San Juan Grade Road, approximately 0.5 mile southwest of the proposed switching station site.

Water Quality

The groundwater quality in the Langley Area Subbasin has not been fully characterized. Groundwater quality in the granitic ridge portion of the subbasin east of the project site has been affected by elevated nitrate concentrations in shallow aquifers (DWR 2003).

On the California list of impaired waterways pursuant to Section 303(d) of the CWA, Gabilan Creek is listed for fecal coliform from urban runoff/stormwater runoff, natural sources, and nonpoint sources and for nitrate from unknown sources for a 6.4-mile stretch (RWQCB 2006). The CWA requires that jurisdictions (states, territories, and authorized tribes) establish priority rankings for waters on the 303(d) list and develop Total Maximum Daily Loads, which are action plans to improve water quality. The Monitoring Plan for the *Agricultural Management Practices and Treatment Wetlands in the Gabilan Watershed* (The Watershed Institute 2005) will help to improve water quality by reducing inputs of excessive sediment, nutrients, and pesticides into waterways in the Gabilan Creek watershed.

3.9.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?	☐	☒	☐	☐

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?	☐	☒	☐	☐
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Cause inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Impacts

a) Would the project violate any water quality standards or waste discharge requirements?

Construction

Construction activities that expose and relocate soil, including pad construction; shoo-fly pole, tubular steel pole, and lattice steel tower removal and replacement; access road construction; and utility trench excavation, have the potential to increase sediment and pollutants in stormwater runoff and increase erosion along exposed slopes and disturbed ground. PG&E would install, monitor, and maintain appropriate erosion and sediment controls to prevent sediment-laden runoff from reaching Gabilan Creek via the four intermittent drainages identified in the project

area. Recommendations provided by Kleinfelder in its geotechnical report prepared for the proposed project site (Kleinfelder 2010) regarding drainage design and construction would be implemented, as appropriate.

Because of the site topography, construction of the switching station would require changing the existing topography to establish a 5.2-acre level pad to accommodate the station and adjacent work areas. APM Biology-11 would require PG&E to design the facility in a way that minimizes impacts to existing seasonal wetlands and intermittent drainages. However, the grading required for pad construction, which would involve cuts up to 70 feet and fill up to 40 feet, would result in a high cut slope in the northeastern portion of the site and 60-foot-high hill slopes on the south and west sides of the site. These significant changes in topography would result in alteration of drainage patterns that could, in turn, result in impacts to water quality standards or waste discharge requirements.

The applicant has identified two APMs, APM Hydrology-1 and APM Hydrology-2, that would reduce impacts to water quality resulting from project construction through development and implementation of an Environmental Training and Monitoring Program (ETMP) and a SWPPP, respectively. Mitigation measures Geology-6, Geology-7, and Geology-8 have been developed to further reduce these impacts to a less than significant level by requiring an ECSTP to be prepared and implemented, a hydraulic study to be conducted, and a drainage plan to be prepared and implemented during and post-construction.

APM Hydrology-1. Worker environmental awareness will communicate environmental issues and appropriate work practices specific to this project. This awareness will include spill prevention and response measures and proper BMP implementation. The SWPPP training will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest water bodies) and will include a review of all site-specific water quality requirements, including applicable portions of the Health and Safety Plan and PG&E's Hazardous Substances Control and Emergency Response program.

APM Hydrology-2. PG&E will file a Notice of Intent with the State Water Resources Control Board for coverage under the General Construction Storm Water Permit and will prepare and implement a SWPPP in accordance with General Order No. 99-08-DWQ. Implementation of the SWPPP will help stabilize graded areas and waterways and reduce erosion and sedimentation. The following measures are generally drawn from that permit and PG&E's standard practices, and will be included in the SWPPP prepared for the construction of the project:

1. All BMPs will be on site and ready for installation before the start of construction activities.
2. BMPs will be developed to prevent the acceleration of natural erosion and sedimentation rates. A monitoring program will be established to ensure that the prescribed APMs are followed throughout project construction. BMPs will include:
    a. straw wattles, water bars, covers, silt fences, sensitive area access restrictions (e.g., flagging), or other sediment containment methods placed around and/or down-slope of work areas prior to earth-disturbing activities and before the onset of winter rains or any anticipated storm events;

b. mulching, seeding, or other suitable measures to protect exposed areas during construction activities as necessary;

c. installation of additional silt fencing prior to construction along the southern and western edges of the proposed switching station site to address unforeseen runoff from the property into the nearby intermittent drainages, seasonal wetlands, and Gabilan Creek;

d. use of brooms and shovels (as opposed to water) when possible to maintain a clean site;

e. construction of a stabilized construction entrance/exit to prevent tracking of dirt onto San Juan Grade Road;

f. establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil, gas, and engine fluids; use of oil pans under stationary vehicles is strongly recommended;

g. no overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks; and

h. stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands, culverts, or creeks will be positioned within secondary containment.

3. All BMPs will be inspected before and after each storm event. BMPs will be maintained on a regular basis, and replaced as necessary throughout the course of construction.

4. A Qualified SWPPP Practitioner will supervise placement of silt fencing at the proposed switching station site to limit the area of disturbance during construction at the site. The silt fence will be monitored regularly to ensure effectiveness.

Some construction activities would require work adjacent to wetlands and intermittent drainages, which could result in sedimentation of these areas and impacts to water quality. Approximately 0.041 acre of intermittent drainage and 0.49 acre of seasonal wetland would be temporarily impacted by construction of temporary access roads. Construction of the permanent access road would result in permanent fill of approximately 0.048 acre of a seasonal wetland adjacent to San Juan Grade Road. The project includes APMs Hydrology-1, Hydrology-2, Biology-11, Biology-12, and Biology-19 to reduce water quality impacts to the seasonal wetlands and intermittent drainages. APMs Biology-11, Biology-12, and Biology-19 direct PG&E to avoid these features to the extent practicable, provide compensation as required by the USACE, USFWS, CDFG, and RWQCB where these features cannot be avoided, construct the permanent access road during dry periods only, and restrict overnight equipment parking in the vicinity of aquatic habitat, which includes wetlands. These measures minimize impacts to wetlands from construction and would reduce impacts to water quality to a less than significant level.

Construction activities would include the use of heavy equipment that uses petroleum products, hydraulic oil, and other chemicals. Any potential impacts to stormwater runoff from the use of these materials would be minimized through containment of any releases before they can impact stormwater, as specified in the SWPPP (APM Hydrology-2). APM Hazards-1, which requires the development and implementation of a Hazardous Substance Control and Emergency Response Plan, and APMs Hazards-4 and Hazards-5, which require establishment of an environmental

training program and implementation of a monitoring program, respectively, would further reduce impacts to a less than significant level. Several additional measures identified by the applicant (APMs Biology-2, -3, -4, -13, -15, and -19) and one proposed mitigation measure (Biology-32) require restricting vehicles and equipment to temporary work areas and roads; adhering to various equipment maintenance, washing, and overnight parking requirements; obtaining necessary permits; and adhering to the PG&E system-wide program for handling and managing hazardous materials. Impacts to water quality would be less than significant.

Operation and Maintenance

PG&E would install landscaping in the area between the switching station fence and the perimeter of the grade and fill area. Vegetation management of this landscaping could increase the amount of dissolved and particulate pollutants from fertilizer and pesticides in stormwater runoff. However, the landscaping would be designed to minimize the use of fertilizers and pesticides by the selection of native plant materials appropriate to the site, soil, and climate.

During project operation, the switching station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Maintenance activities would involve use of existing access routes and a newly constructed permanent access road and would not involve any new ground disturbance that could cause erosion and sedimentation of waterways. . The potential risk of contamination from the release of chemicals from equipment into existing drainages during maintenance activities would be negligible. Additionally, PG&E has BMPs that require maintenance vehicles to carry emergency spill kits to contain and control minor spills. The transformers on the site would contain oil that could be a potential contaminant if released into existing drainages; however, such transformers would be constructed with containment systems to capture any potential leaks on site and prevent spills. Impacts to water quality standards or waste discharge requirements would be reduced to a less than significant level with the implementation of mitigation measure Geology-8, which includes provisions for the development and implementation of a post-construction drainage plan.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Local groundwater would not be used for project construction (i.e., for dust control) or operation (e.g., landscaping). Any required water would be sourced from existing entitlements at PG&E yards in Moss Landing or Salinas. The project does not include the construction of any facilities that use groundwater and would not deplete or interfere with groundwater supply.

The local groundwater basin is recharged through pervious surfaces, including those on the project site. The majority of the switching station site, apart from asphalt roads, would be covered with pervious gravel; however, PG&E would need to install some impervious surfaces, such as concrete pads, to support the switching station infrastructure. The total acreage of impervious surfaces on the site would be less than 2 acres. Given the substantial amount of open space in the

surrounding area, the net decrease in the amount of groundwater recharged to the basin would be negligible. Therefore, impacts to the groundwater supply levels as a result of an increase in impervious surfaces would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?

Construction

Construction of the proposed project could affect the existing on site drainage pattern and drainage patterns in the project vicinity. Major grading involving cuts up to 70 feet high and fill up to 40 feet deep would be required to establish a 5.2-acre level pad to accommodate the station and adjacent work areas. Drainage ditches would be installed on both sides of the new access road. Native soils at the project site generally are well to excessively drained and characterized by rapid runoff and high erosion potential. Grading activities would expose fanglomerate deposits, which, although dense, are sand-rich and susceptible to erosion. An intermittent drainage, located on the southwest side of the proposed switching station, could potentially erode the toe of the fill slope.

Surface disturbance would be minimized to the extent practicable to complete the scope of work safely and efficiently. Erosion control BMPs would be used where grading is performed. Topsoil would be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil would be used to reclaim areas of temporary construction disturbance. Once temporary surface disturbances are complete, areas that would not be subject to additional disturbance would be stabilized with appropriate erosion control measures. Recommendations provided in the Kleinfelder geotechnical report (Kleinfelder 2010) regarding site preparation, drainage design, and erosion and runoff minimization would be implemented as appropriate. PG&E's Grading Standards would be implemented to minimize impacts to the project area, and Monterey County's Grading Ordinance would be adhered to during construction.

Cut slopes and fill slopes would be constructed at an inclination no steeper than 2:1 (horizontal to vertical). All slopes would be protected from erosion and would be constructed to minimize ponding, collect and direct surface and subsurface runoff to discharge points, and maintain drainage pathways away from project structures and foundations. Drainage controls (e.g., keyways, subdrains, ditches, and benches) would be installed during construction, and would be regularly inspected and maintained during ongoing construction, especially following the winter season and after storm events.

Proposed project plans include the construction of drainage ditches arranged in a two-tiered drainage system outside the perimeters of both the switching station and the grade and fill area. Three overflow outlets (spillways), lined with geofabric and angular rock, would carry runoff from the switching station to the ditch around the grade and fill area. From there, runoff would flow overland towards the seasonal wetland downslope of the switching station. Drainage from the area uphill of the site would flow into the ditch surrounding the grade and fill area and be carried south along the east side of the access road, where it would drain into a 10-foot by 10-foot by 1-foot area of riprap prior to flowing through a 30-inch-diameter culvert installed under the access road. The culvert would direct flow overland towards the seasonal wetland downslope of

the switching station. Intermittent drainage from the seasonal wetland would flow to Gabilan Creek through an existing culvert under San Juan Grade Road.

The proposed project includes several APMs (APMs Hydrology-2 and Biology-2, -3, -11, -12, -13, and -20) that reduce impacts from erosion and siltation through the alteration of the site drainage pattern. APMs Biology-2 and Biology-3 restrict parking and movement of vehicles and equipment to existing roadways; pre-approved access roads, overland routes, and access areas; and previously disturbed or developed areas or work areas. APMs Biology-11 and Biology-12 restrict work in intermittent drainages and seasonal wetlands, APM Biology-13 requires proper permitting, and APM Biology-20 requires use of BMPs to avoid sedimentation of Gabilan Creek. However, because of the proposed drastic change in topography at the project site, impacts from erosion and siltation may still occur. Implementation of mitigation measures Geology-4, Geology-5, and Geology-6 would reduce these impacts to a less than significant level by evaluating natural and constructed slopes for stability, implementing measures to avoid, accommodate, replace, or improve soft or loose soils, and developing of an Erosion Control and Sediment Transport Plan (ECSTP).

Operation and Maintenance

During project operation, the switching station would be controlled remotely and routine inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Permanent parking for facility inspections and maintenance would be entirely within the switching station site or along the access road at the entrance to the switching station. Project operation and maintenance would not involve activities that would alter the drainage pattern of the site. However, the topography of the site would be drastically altered to accommodate project construction. Runoff rates and sedimentation could increase due to the construction of up to 12.2 acres of semipermeable and impermeable surfaces, and resulting drainage patterns could be affected as a consequence. The existing culvert installed in the intermittent drainage that crosses San Juan Grade Road and the culvert proposed to be constructed under the new access road could affect stream flow during project operation, causing erosion and siltation in the drainage and vicinity.

Stormwater runoff from the impervious portion of the proposed switching station would travel through a tiered drainage ditch system and would be filtered though angular rock, which would allow for additional settlement of suspended solids. Overland flows from uphill of the site would be slowed and filtered by passing through riprap prior to flowing off site through a 30-inch-diameter culvert installed under the new access road. The proposed project includes APM Aesthetics-2, which would require recontouring and revegetating areas disturbed during construction and would reduce erosion and runoff following project start-up. Implementation of mitigation measures Geology-8, which requires implementation of a post-construction drainage plan, and Geology-9, which requires adherence to a maintenance plan to minimize erosion, would reduce impacts from erosion and siltation during project operation and maintenance to a less than significant level.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

Construction

Construction of the proposed project would involve activities that would affect the existing drainage pattern on site and in the project vicinity. Grading would be required to establish the level pad to accommodate the station and adjacent work areas. Recommendations provided in the Kleinfelder geotechnical report pre (Kleinfelder 2010) regarding drainage design and construction would be implemented as appropriate. However, the significant changes in topography could result in an increase in the amount or rate of surface runoff that could, in turn, result in flooding on or off site.

The tiered drainage system to be constructed outside the perimeters of the switching station and the grade and fill area, as well as the drainage ditches to be installed on both sides of the new access road, would decrease the amount of surface runoff. The proposed project includes two measures (APMs Hydrology-2 and Biology-13) that would reduce impacts from increased surface runoff through alteration of the site drainage pattern. Impacts from flooding may still occur due to the drastic change in topography at the project site. Implementation of mitigation measures Biology-32, Geology-7, and Geology-8 would reduce these impacts to a less than significant level.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Project operation and maintenance would not involve activities that would alter the drainage pattern of the site. However, the topography of the site would be drastically altered to accommodate project construction and runoff rates could increase due to the construction of up to 12.2 acres of semipermeable and impermeable surfaces. Resulting drainage patterns could be affected as a consequence. The existing culvert installed in the intermittent drainage that crosses San Juan Grade Road and the culvert proposed to be constructed under the new access road could also affect stream flow during project operation, causing increased runoff that could result in flooding both upstream and downstream of the culverts. During periods of heavy precipitation and runoff, blockage of the culverts by natural or manmade debris could result in flooding upstream of the culverts. This flooding could then result in one or both of the culverts being washed away. Flooding could then proceed downstream.

Stormwater runoff from the impervious portion of the proposed switching station would be routed through a tiered drainage ditch system and filtered though angular rock. Overland flows from uphill of the site would be slowed and filtered by passing through riprap prior to flowing off site through a culvert installed under the new access road. Impacts during project operation and maintenance would be reduced by implementation of APM Aesthetics-2 and would be further reduced to a less than significant level through implementation of mitigation measures Geology-4,

Geology-5, and Geology-6 by minimizing slope instability and impacts from soft or loose soils during construction, and requiring development of an ECSTP.

e) Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Construction

Small amounts of water would be used for dust control and possibly for sandy soil stabilization during tubular steel pole and lattice steel tower foundation excavation. Additionally, substantial grading would be required to establish the level pad to accommodate the station and adjacent work areas. Recommendations provided by Kleinfelder in its geotechnical report prepared for the proposed project site (Kleinfelder 2010) regarding drainage design and construction would be implemented as appropriate. However, the significant changes in topography could result in a significant increase in the amount of runoff water.

Two project components would decrease the amount of runoff: a tiered drainage system outside the perimeters of the switching station and the grade and fill area, and drainage ditches on both sides of the new access road. The proposed project includes several APMs (APMs Hydrology-1, Hydrology-2, Hazards-1, Hazards-4, Hazards-5, and Biology-13) that would reduce impacts from increased surface runoff and polluted runoff. However, because of the drastic change in topography at the project site, impacts from increased runoff may still occur. Implementation of mitigation measures Biology-32, Geology-7, and Geology-8 would reduce these impacts to a less than significant level by requiring a hydraulic study to evaluate impacts to drainage due to the altered topography, and by requiring implementation of a drainage plan.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. The proposed project would not generate substantial runoff water during operation. The project would be constructed with appropriate drainage facilities to minimize runoff, and the majority of the switching station site, apart from asphalt roads, would be covered with pervious gravel. Impacts during project operation and maintenance would be reduced to a less than significant level through implementation of mitigation measures Geology-8, which requires implementation of a drainage plan, and Geology-9, which requires adherence to a maintenance plan to minimize erosion.

f) Would the project otherwise substantially degrade water quality?

Construction

Construction activities have a minimal potential to transport sediments from ground-disturbing and excavation activities. A hazardous material spill could potentially impact nearby waterways or drainages. Implementation of APMs Hydrology-1, Hydrology-2, Hazards-1, Hazards-4, and Hazards-5 would prevent contamination of nearby waterways. Impacts to water quality would be less than significant.

Operation and Maintenance

Project operation and maintenance activities would not be expected to result in any actions that would degrade water quality. The only hazardous materials in use during project operation would be the oil contained in the switching station transformers. These transformers would have a containment system that would prevent any accidental leaks from spilling into the drainage channel. No impacts would occur.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The project does not involve building or placement of any new housing. No impacts would occur.

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The project does not involve building or placement of any structures within a 100-year flood hazard area. No impacts would occur.

i) Would the project expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The switching station site and surrounding tubular steel poles and lattice steel towers to be modified, including access roads and temporary work areas, are not located within mapped flood zones. A portion of the power line to be removed during power line reconfiguration spans a flood zone on the western side of Crazy Horse Canyon Road. Additionally, portions of two power lines proposed to be reconfigured (western portion of Moss Landing-Crazy Horse Canyon Nos. 1 and 2 115 kV Power Lines and southern portion of Crazy Horse Canyon-Salinas-Soledad Nos. 1 and 2 Power Lines) span this flood zone. The flood zone crossed by the power line is limited in extent (varying from approximately 250 to 750 feet wide) and would not require workers to be in the flood zone for a significant amount of time. The power line would only span the flood zone and no existing or new structures would be located in the flood zone. The proposed project would therefore not expose people or structures to a significant risk of loss, injury, or death. Impacts would be less than significant.

j) Cause inundation by seiche, tsunami, or mudflow?

The risk of inundation from a tsunami is greatest along an exposed coast and greatly decreases with distance from the coast. The proposed project is located approximately 11 miles from the Pacific Ocean; therefore, impacts from tsunamis would not occur. Lagunita Lake is located downslope of the proposed project site, approximately one-third of a mile away. The difference in elevation between the lake and the site is approximately 100 feet and the lake is small and shallow; therefore, inundation of project structures by an unlikely seiche on the lake would not occur. The project area is not located downslope of any steep canyons; therefore, impacts from inundation by a mudflow would not occur.

3.10 Land Use and Planning

3.10.1 ENVIRONMENTAL SETTING

Zoning and Land Use Designations

The proposed project site is located northeast of the intersection of Crazy Horse Canyon Road and San Juan Grade Road, north of the City of Salinas in Monterey County. The project site is located within the North County Planning Area as designated by the Monterey County General Plan (Monterey County 1985a). The northern boundary of the Greater Salinas Planning Area, located south of the project site, is at Old Stage Road, approximately 0.25 mile south of San Juan Grade Road (Monterey County 1985b).

The General Plan designations for the project site are shown in Figure 3.10-1, and the zoning land use designations for the project site are shown on Figure 3.10-2. The entire project area is located on land classified as grazing lands. The zoning designation for the project area is permanent grazing (PG) lands.

Existing Land Use

Agricultural grazing is the only land use in the project site vicinity (Table 3.10-1). The closest residences, which include low-density residential housing, are located on the south side of San Juan Grade Road, east of Crazy Horse Canyon Road, approximately 1,400 feet (0.25 mile) from the proposed switching station site. Lagunita Elementary School is located on the west side of San Juan Grade Road, approximately 300 feet south of Crazy Horse Canyon Road and approximately 3,500 feet southwest of the proposed switching station site.

San Juan Grade Road is part of the 1,210-mile-long *Juan Bautista de Anza National Historic Trail* from Nogales, Arizona, to San Francisco, California, as designated by the National Park Service (NPS). California Historical Landmark No. 651, the site of the Battle of Natividad, is located 0.5 mile from the project area at the intersection of San Juan Grade Road and Crazy Horse Canyon Road. The Battle of Natividad took place on November 16, 1846, during the Mexican-American War. A roadside pullout allows motorists to stop and view this historical plaque.

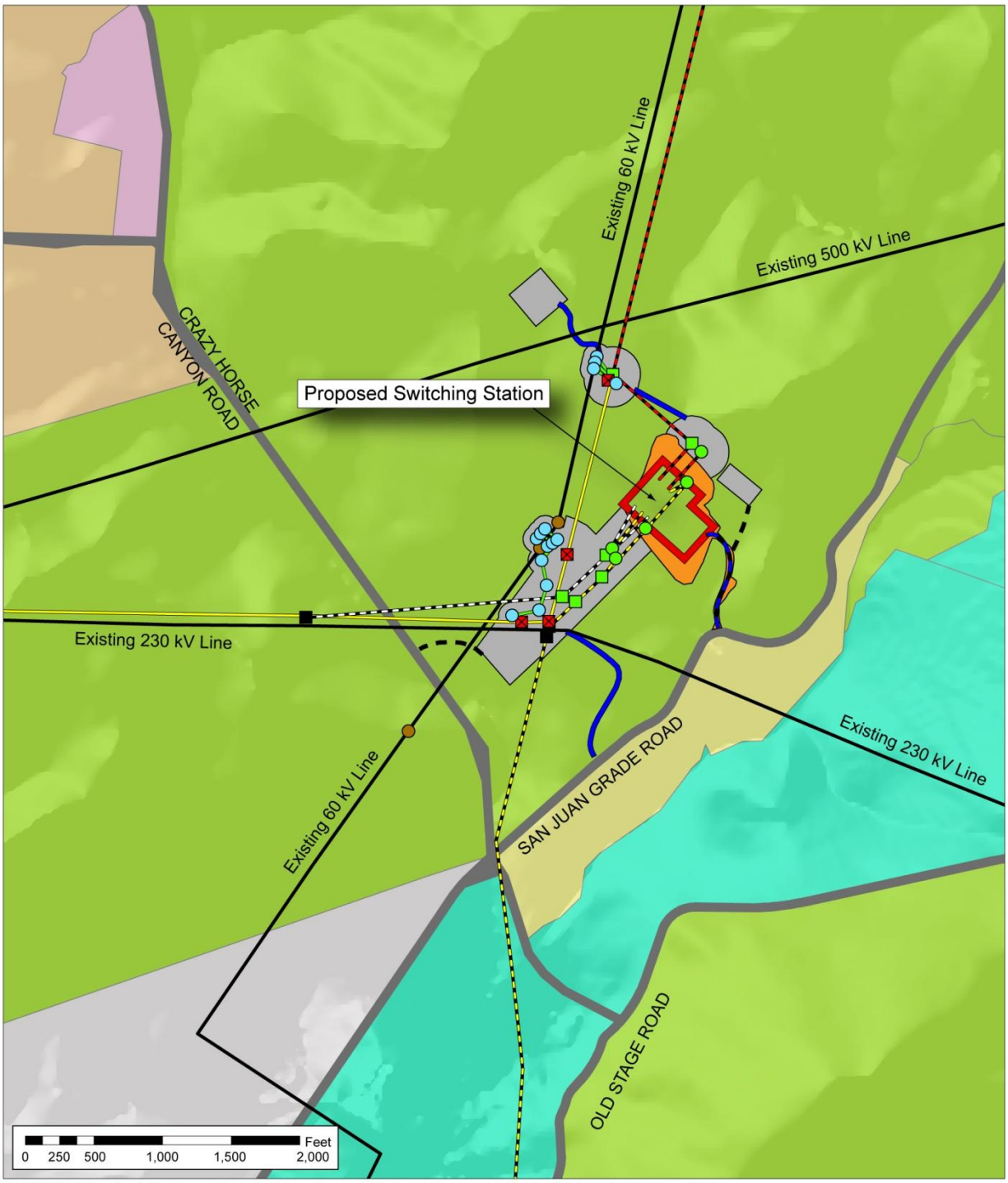
Old Stage Coach Road is designated as a very scenic and visually sensitive road by Monterey County. The visual sensitivity designation includes the lands adjacent to and east of Old Stage Road, but does not include the project site.

Land Use Policies

Viewsheds

Multiple Monterey County zoning ordinances address protection of important viewsheds in the County. The switching station site is within the viewshed of San Juan Grade Road and Old Stage Road. The proposed towers would also be visible from Crazy Horse Canyon Road. The San Juan Grade Road viewshed is currently considered a significant visual resource by the County (Monterey County 2007). Supplemental policy 40.1.1.2 (GS) to the General Plan, included in the Greater Salinas Area Plan, states that measures should be implemented to preserve the scenic quality of Old Stage Road. The hill ridgelines within Monterey County are also considered sensitive visual resources as designated by the County (Monterey County 2007). A proposed

Figure 3.10-1: Zoning Land Use Designations



SOURCE: County of Monterey Planning Dep. August 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

LEGEND

*Please Refer to Legend Information on Following Page

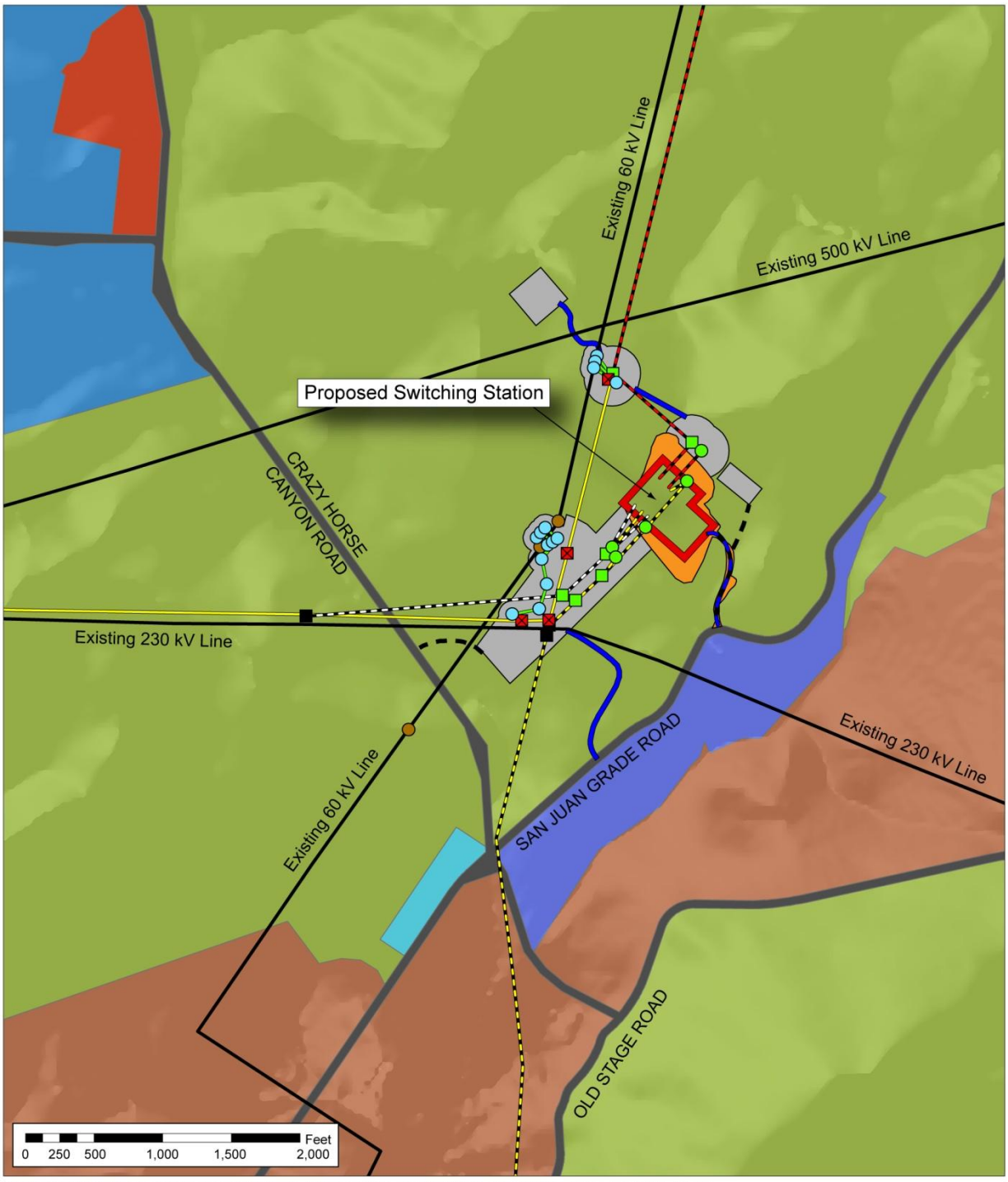
RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.10-1 Legend: Zoning Land Use Designations

SOURCE: County of Monterey Planning Dep. August 2010, PG&E 2010, and RMT Inc. 2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.10-2: General Plan Land Use Designations



SOURCE: County of Montery Planning Dep. August 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

LEGEND

*Please Refer to Legend Information on the Following Page

*Note: General Plan pending final approval from Board of Supervisors

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Figure 3.10-2 Legend: General Plan Land Use Designations

SOURCE: County of Montery Planning Dep. August 2010, PG&E 2010, USGS 2010, and RMT Inc. 2010

RMT
ENVIRONMENT • ENERGY • ENGINEERING

Table 3.10-1: Existing Land Uses

Location	Existing Land Use(s)
Switching Station Site	Agricultural land Existing 115 kV power lines traverse the area near the site in the north, south, east, and west directions
Existing access road	Agricultural land
Pulling sites	Agricultural land
Tie-in sites	Agricultural land
Within 0.25 mile of the project site	Agricultural land Low-density residential housing San Juan Grade Road Old Stage Road Gabilan Creek
Between 0.25 and 0.5 mile of the project site	Agricultural land Low-density residential housing Rural residential Agricultural industrial School Battle of Natividad (historical landmark) Crazy Horse Canyon Road Lagunita Lake
Between 0.5 mile and 1 mile of the project site	Commercial Light industrial
Between 1 mile and 1.5 miles of the project site	Low-density residential housing Medium-density residential housing Agricultural residential

SOURCES: Site visit on July 21, 2010; maps and aerial photographs, 2008; Monterey County 2007; Monterey County 1985a, Monterey County 1985b

general plan update would further codify existing procedures of assessing the visual impacts of projects in the viewsheds of scenic highways, roads, and common viewing areas, and also would require any proposed development that cannot be sited outside the public viewing area to have mitigation measures identified and approved.

San Juan Grade Road is also *part of an NPS-designated historic trail, the Juan Bautista de Anza National Historic Trail. The Historic Preservation Section of the Monterey County General Plan and Chapter 18.25, Preservation of Historic Resources, in the County of Monterey Code include measures to protect, enhance,*

perpetuate, and use historical resources. Monterey County maintains a historical preservation plan and a historical preservation ordinance to provide the necessary tools to maintain the County's historical and cultural resources (Monterey County 2007).

Significant Trees

Monterey County Zoning Ordinance 21.64.260.F.2 outlines special regulations regarding the preservation of oak trees and other specified protected trees. Exceptions are granted for "tree removal pursuant to Public Utilities Commission General Order 95 or by governmental agencies within public rights of way."

Habitat Conservation and Other Plans

There are no adopted habitat conservation plans or natural communities conservation plans within the areas covered by the existing 1985 General Plan (Monterey County 1985a, Monterey County 1985b) or the Draft 2007 General Plan (Monterey County 2007).

3.10.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Impacts

a) Would the project physically divide an established community?

Construction of the proposed switching station and realignment of the existing power lines would not divide an established community as the project is not located within a community.

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project would be consistent with applicable Monterey County General Plan objectives, policies, and zoning ordinances. The project area is zoned for grazing. Although this zoning designation (PG) is designed to protect and preserve agricultural uses, public utility structures are allowed on lands zoned for agriculture and permanent grazing with issuance of the appropriate Use Permit (Chapters 21.24 and 21.34 of the Monterey County Code). Under General Order 131-D, PG&E is not required to obtain Use Permits or other discretionary permits from local jurisdictions because of the CPUC's exclusive jurisdiction over the design, siting, installation, operation, maintenance, and repair of electric transmission facilities (CPUC 1995).

The project area would be located within an existing PG&E right-of-way and on privately owned farmland. The project would have no impact on local plans or policies, and would have no impact on *the Juan Bautista de Anza National Historic Trail.* No impacts to the historic San Juan Grade Road are expected. The cultural resources impact analysis and applicable mitigation measures are provided in Section 3.6, Cultural Resources.

Although project construction would temporarily alter both the Crazy Horse Canyon Road and San Juan Grade Road viewsheds, impacts would be expected to be minor. The visual and aesthetic impact analysis and applicable mitigation are provided in Section 3.1, Aesthetics.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No habitat conservation plan or natural community conservation plan has been established for the project area. No impact would occur.

3.11 Mineral Resources

3.11.1 ENVIRONMENTAL SETTING

The most important mineral-bearing formations in Monterey County include:

- The Sur Series (dolomite, limestone, and barite)
- The Franciscan assemblage (gold) and related serpentinite units (chromite, mercury, and asbestos)
- Cretaceous granitic rocks (stone and feldspar)
- Miocene sedimentary rocks (oil, gas, coal, dimension stone, and diatomite)
- Quaternary alluvium, beach, and dune deposits (sand, gravel, and clay)

Some mineral deposits are also associated with faults (gold and mercury) and folds (gold and oil).

There are no known important mineral resources or active mining operations in the immediate vicinity of the project site. Several small limestone quarries have historically operated in various parts of the Gabilian Range within the project vicinity, but there currently are no known operations at or adjacent to the project site.

Under the Surface Mining and Reclamation Act of 1975, mineral resources are classified by the State Geologist into Mineral Resource Zones (MRZs) based on the likelihood of the presence of mineral deposits and their economic value. There are no MRZs identified within the project area.

3.11.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	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 residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Impacts

a) Would the project 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?

There are no known important mineral resources that would be impacted by the project. There are no MRZs in the project vicinity. The project would not result in the loss of availability of a known mineral resource. No impacts would occur.

b) Would the project 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?

The project would not affect the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impacts would occur.

3.12 Noise

3.12.1 ENVIRONMENTAL SETTING

General Background

Noise is defined as unwanted sound. The most common noise metric is the logarithmic decibel (dB) scale referenced to the minimum threshold pressure for audibility. An A-weighted dB (dBA) deemphasizes the very low and very high frequencies of sound, similar to how a human perceives or hears sound, achieving a strong correlation in terms of how to evaluate acceptable and unacceptable sound levels. A change of 5 dBA is perceived as a noticeable change in sound level. Noise levels attenuate at a minimum rate of 6 dBA per doubling of distance between the source and receptor (NoiseNet.org 2008).

One metric used to determine the existing noise conditions of a community is the equivalent sound level (L_{eq}), defined as the sound level containing the same total energy as a time-varying signal over a given sample period. The L_{max} is the maximum noise emission level of equipment based on work cycles. To account for human sensitivity to evening and nighttime noise levels, the day-night sound level (L_{dn}) and the community noise equivalent level (CNEL) were developed. The L_{dn} is the equivalent energy sound level during a 24-hour day obtained after the addition of 10 dB to sound levels in the night after 9:00 p.m. and before 7:00 a.m. The CNEL is the equivalent energy sound level during a 24-hour day obtained after the addition of 5 dB to sound levels in the evening from 7:00 p.m. to 9:00 p.m. and 10 dB to sound levels in the night after 9:00 p.m. and before 7:00 a.m. The CNEL is generally computed for annual average conditions.

Groundborne Vibrations

Vibrating objects in contact with the ground radiate energy through the ground. Vibrations from large and/or powerful objects are perceptible by humans and animals. Vibrations can be generated by construction equipment and activities. Vibrations attenuate depending on soil characteristics and distance.

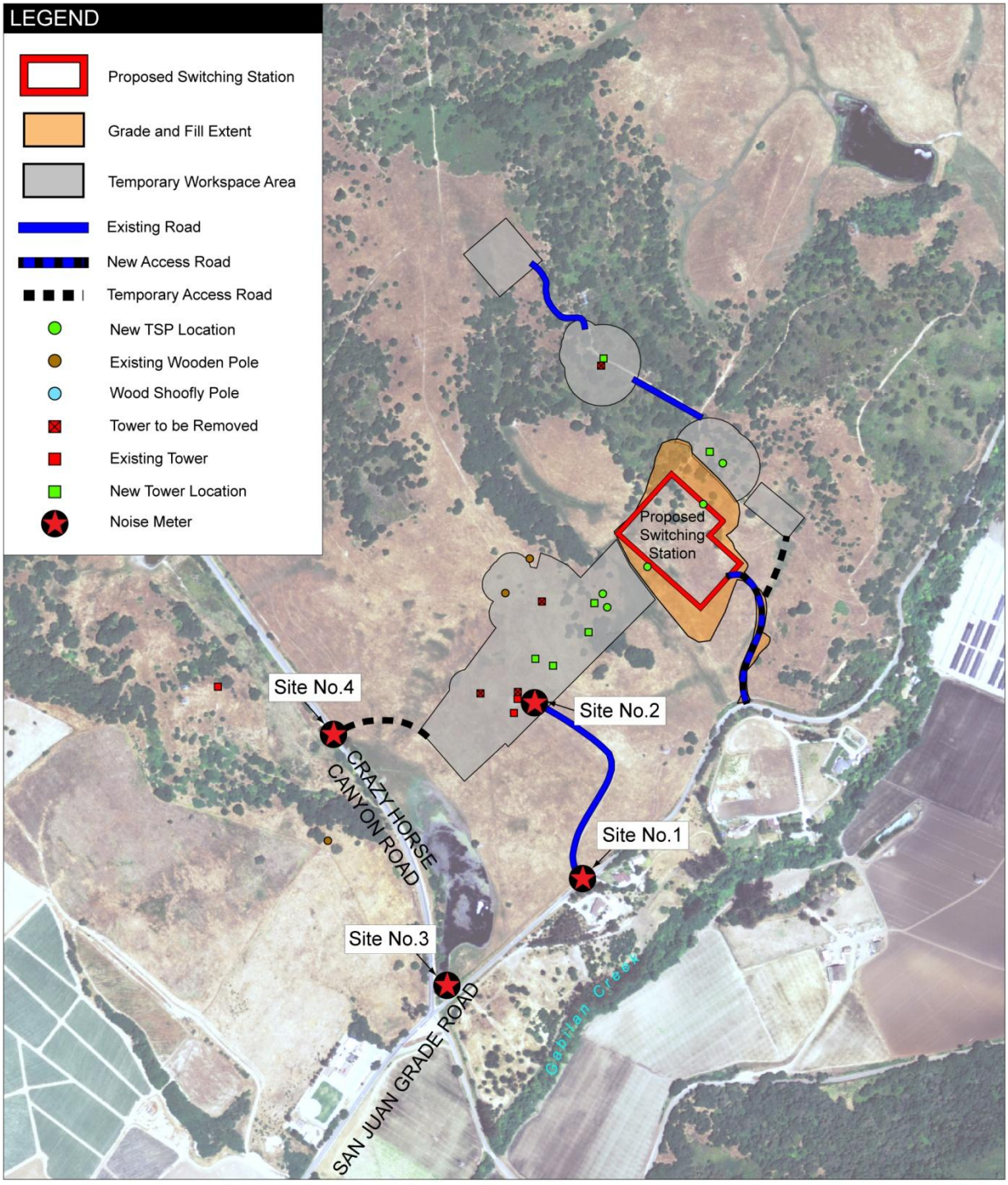
The U.S. Department of Transportation (USDOT) has guidelines for vibration levels from construction activities, and recommends that the maximum peak particle velocity levels remain less than 0.05 inch per second (in/sec) at the nearest structures. Vibration levels greater than 0.5 in/sec have the potential to cause architectural damage to normal dwellings. The USDOT also states that vibration levels greater than 0.015 in/sec are sometimes perceptible to people, and the level at which vibration becomes annoying to people is 0.64 in/sec (USDOT 2006).

Baseline Noise Levels

Noise in the project area is generated from a limited number of sources. The project area is located north and northeast of Crazy Horse Canyon Road and San Juan Grade Road. Traffic on these roadways contributes a large portion of the ambient noise levels. Activities at the single-family residences south of project area also generate noise in the project area.

Sound levels were measured at four locations, shown on Figure 3.12-1, during a six-day period between February 3, 2010, and February 8, 2010. Noise monitoring results are summarized in Table 3-12-1.

Figure 3.12-1: Sound Survey Locations



SOURCE: PG&E 2010, ESRI 2010, and RMT Inc. 2010

Table 3.12-1: Summary of Long- and Short-Term Sound Level Measurement Data

Site No.	Location	dBA				
		L_{eq}	L_{10}	L_{50}	L_{90}	L_{dn}
1	PG&E Pole #771 next to driveway of 1048-1050 San Juan Grade Road	42.6	53.3	41.2	32.4	57.3
2	Transmission tower near project site	66.8	71.0	56.5	46.0	73.5
3	Intersection of Crazy Horse Canyon Road and San Juan Grade Road	51.7	56.7	48.5	39.9	59.7
4	Intersection of the temporary access road and Crazy Horse Canyon Road	58.3	70.7	49.4	29.5	69.8

Notes:
L_{10} = Sound level exceeded 10 percent of the time during the sound sample
L_{50} = Sound level exceeded 50 percent of the time during the sound sample
L_{90} = Sound level exceeded 90 percent of the time during the sound sample

Sound level meters at Site Nos. 1, 3, and 4 were located along rural roads and had typical patterns consistent with road noise during periods of high traffic. The meter at Site No. 2 had the highest recorded sound levels. The data from Site No. 2, however, was considered anomalous due to high wind action through the tower structure at this location.

The relevant character of the sound environment of the area as it relates to the facility operation is measured most accurately by the L_{90} metric. L_{90} is not only commonly considered the "best" metric for the constant noise state of a location, but is also fully characteristic of the sound emitted by a normal utility facilities.

Sensitive Receptors

Sensitive noise receptors include residential areas, hospitals, schools, performance spaces, businesses, and religious congregations. The closest sensitive receptors to the project area are Lagunita School, located approximately 3,500 feet southwest of the project area, and residences, located on the south side of San Juan Grade Road, east of Crazy Horse Canyon Road, approximately 1,400 feet south of the project area.

Noise Standards

CEQA does not specify a numerical threshold for "substantial increases" in noise. Noise impacts within the project area should be managed and evaluated based on local plans, policies, and ordinances.

The Monterey County Municipal Code limits the operation of noise-producing devices. This ordinance states, "No person shall, within the unincorporated limits of the County of Monterey, operate any machine, mechanism, device or contrivance which produces a noise level exceeding eighty-five (85) dBA measured fifty (50) feet there from." Table 3.12-2 summarizes the Monterey County noise standards.

Table 3.12-2: Monterey County Noise Standards		
Land Use	**Normally Acceptable Noise Range (L_{dn} or CNEL)**	**Conditionally Acceptable Noise Range (L_{dn} or CNEL)**
Passively-used Open Spaces	Up to 50 dBA	50-55 dBA
Low-density, Single-family Dwellings	50-55 dBA	60-70 dBA
Schools, Libraries, Churches, or Hospitals	50-60 dBA	60-70 dBA

SOURCE: Monterey County 2008

3.12.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Impacts

a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Construction of the project would require the use of heavy construction equipment. Construction activities would occur in open space and agricultural areas. Construction activities near residential areas generally would be limited to daytime hours (i.e., between 7:00 a.m. and 7:00 p.m.) as described below in APM Noise-2.

Table 3.12-3 lists equipment likely to be used during construction and the typical noise emission levels from such equipment at 50 feet from the source. The highest maximum noise levels generated by project construction typically would range from approximately 82 to 94 dBA at a distance of 50 feet from the noise source. Average construction-generated noise levels generally would be between approximately 75 and 85 dBA measured at a distance of 50 feet from the project site during busy construction periods. These noise levels would be expected when construction occurs in the immediate vicinity of sensitive receptors in the project area.

Table 3.12-3: Construction Equipment Types and Typical Noise Emission Levels

Equipment	Typical Noise Level 50 Feet from Source (dBA)
Backhoe	78
Concrete mixer truck[1]	76
Crane	75-86
Pick-up truck	55
Dump truck	76
Equipment/tool van[2]	55
Dozer	82
Water truck1	76
Grader	85
Rock transport1	76
Roller	80
Hole auger	84
Line truck and trailer2	55
Truck-mounted auger	79-84

Table 3.12-3 *(Continued)*: Construction Equipment Types and Typical Noise Emission Levels

Equipment	Typical Noise Level 50 Feet from Source (dBA)		
Truck	82-94		
Generator	71-82		
Pneumatic tool	85		
Compressor	74-86		
Helicopter	Takeoff[3]	Approach[3]	Level Flyover[4]
	85	88	86

Notes:

[1] Based on noise level for dump truck.

[2] Based on noise level for pick-up truck.

[3] Takeoff and landing measured at 150 meters (492 feet) to the side of the approach and departure path, assuming a 6-degree approach and departure flight path and the helicopter is 120 meters (394 feet) from the ground surface. Calculated as per procedure outlined in Appendix H to 14 Code of Federal Regulations part 36.

[4] Flyover measured at 150 meters (492 feet).

SOURCES: Federal highway administration (FHWA) 2006, National Cooperative Highway Research Program 1999; True 1977.

The project includes APMs Noise-1, which requires use of quiet equipment, Noise-2, which limits construction hours, Noise-3, which reduces unnecessary engine idling, Noise-4, which shields noise from stationary equipment, and Air Quality-1, which limits unnecessary vehicle and equipment idling. Noise levels would be less than significant level.

APM Noise-1. "Quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) will be used during construction whenever possible.

APM Noise-2. PG&E will limit construction to the hours between 7 a.m. and 7 p.m., Monday through Saturday, to the extent feasible. If nighttime work is needed because of clearance restrictions on the power line, PG&E will take appropriate measures to minimize disturbance to local residents, including contacting nearby residences to inform them of the work schedule and probable inconveniences.

APM Noise-3. PG&E will encourage construction crews to limit unnecessary engine idling.

APM Noise-4. Compressors and other small stationary equipment will be shielded with portable barriers in proximity to residential areas.

Operation and Maintenance

Facility operation would not create a new source of noise. Facility maintenance could result in the short-term generation of noise, which would be similar to the noise generated from construction.

The new switching station would not produce corona noise1. The existing 115 kV lines that would be connected into the switching station may produce corona noise; however, corona noise is usually not a design issue for power lines rated at 230 kV and lower voltages and, as such, any corona noise associated with the lines within the switching station would be minimal. Impacts would be temporary and less than significant.

b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction

Construction activities may generate temporary localized groundborne vibrations. Tamping activities could generate vibration levels of 0.03 in/sec at a distance of 50 feet. These levels are dependent on the soil type at the construction site and the type of equipment used. Because vibration levels exceeding 0.64 in/sec could cause some persons to become annoyed, tamping operations could, under some circumstances, temporarily impact persons in buildings within 50 feet of construction equipment. Persons in buildings further than 50 feet from the construction area would not be impacted by construction-generated vibrations. The nearest sensitive receptor is 1,200 feet from the project area, which is far enough that any vibration effects would be minimal. Project-related vibrations would not cause any structural damage. The construction of the project would not result in any significant impacts to sensitive receptors from vibrations. Impacts would be temporary and less than significant.

Operation and Maintenance

Project operation would not create any vibrations; therefore, no impact would occur.

c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

A permanent increase in ambient noise levels in the project vicinity would not occur. Project operation would produce virtually no noise because the facility would not include transformer banks or reactor banks, which are typical noise-producing equipment. The permanent L_{90} noise level for the site is estimated to be 40 dBA, which is consistent with current noise levels. No permanent increase to the noise environment would occur as a result of construction or operation of the project.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction

Construction activities would be temporary, lasting approximately 16 months. In the event that multiple pieces of the loudest equipment (L_{max} 94 dBA) are simultaneously being used during construction, the reasonable L_{max} level for the closest sensitive receptor would be approximately 65 dBA. The Federal Transit Administration (FTA) 2006 Guidelines were used to generate noise

[1] Corona noise involves the electrical breakdown of air into charged particles caused by the electrical field at the surface of conductors. The phenomenon produces audible noise, usually described as crackling or hissing. The level of corona noise increases under wet conditions, such as rain or heavy fog.

level projections. Impacts to sensitive receptors from temporary increases in ambient noise levels would be less than significant. The project includes APMs Noise-1, Noise-2, Noise-3, Noise-4, and Air Quality-1 to minimize temporary construction noise impacts.

Operation and Maintenance

Project operation would not result in temporary or periodic increases in ambient noise levels; therefore, no impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?

There are no public airports in the vicinity of the project, nor is the project located within an airport land use plan. No impacts would occur.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

There are no private airstrips in the vicinity of the project. No impacts would occur.

3.13 Population and Housing

3.13.1 ENVIRONMENTAL SETTING

Population

According to state projections from the U.S. Census Bureau, California's population is projected to increase by approximately 30 percent from 2000 to 2020. Monterey County's growth is expected to increase by approximately 36 percent over this period. The growth within the city limits of Salinas is expected to be approximately 7 percent from 2000 to 2020. The slower growth rate in Salinas is due to high median home prices compared to average per capita income in the area. Based on 2008 data, Salinas has decreased in population by approximately 6,000 residents since the 2000 census (U.S. Census Bureau 2010a). Table 3.13-1 lists historical and projected populations for Monterey County and the City of Salinas.

Table 3.13-1: Total Population

Geographic Region	2000	2005	2020 Projection
Monterey County	401,762	410,206	545,600
City of Salinas	151,060	145,032	162,234

SOURCE: U.S. Census Bureau 2010a

Housing

Table 3.13-2 lists the total housing units and vacancy rates for Monterey County and the City of Salinas. The data in Table 3.13-2 are based on an American Community Survey that was conducted by the U.S. Census Bureau and represents estimates of community data for the years 2006 to 2008. The number of available housing units in the year 2020 is estimated to be 48,550 within the City of Salinas (U.S. Census Bureau 2008).

The City of Salinas has 13 hotels/motels and two bed and breakfast accommodations within its city limits. There are four additional hotels/motels nearby, outside the city limits. Low-density residential housing is located less than 0.25 mile south of the project area. The closest residences are on the south side of San Juan Grade Road, east of Crazy Horse Canyon Road.

Table 3.13-2: Total Housing Units and Vacancy Rates (2006-2008 American Community Survey 3-Year Estimates)

Geographic Region	Total Housing Units	Vacancy Rate (percent)
Monterey County	139,437	10.2
City of Salinas	43,703	7.2

SOURCE: U.S. Census Bureau 2010b

3.13.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impacts

a) Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

Construction of the project would not increase the need for workers or for additional housing units in the area. The project would be constructed by a maximum of 20 PG&E crew members at any one time. The crew members would be assembled from the local workforce and would commute to the project site from the general vicinity. Operation and maintenance of the project would not require any new employees or on-site staff. Periodic maintenance work would be conducted by PG&E staff already located in the area.

The project is being constructed to increase the reliability of electrical services in the area and does not include expanding transmission capacity. The project would not induce additional population growth directly or indirectly. There would be no impacts to population and housing.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The proposed switching station site and the transmission line to be reconfigured would be located on undeveloped grazing land. There are no residences on the undeveloped switching station, the existing transmission line rights of way, or in temporary work areas; therefore, the project would not displace residents. No impacts would occur.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project is being constructed to increase the reliability of the existing electrical system. The project is not being implemented in advance of growth but, rather, in response to growth and development in the northern portion of Monterey County. PG&E is legally required to provide services as development is approved through the local planning process. There would be no displacement of people as a result of construction. No impacts would occur.

This page is intentionally left blank

3.14 Public Services

3.14.1 ENVIRONMENTAL SETTING

Fire Protection Services

There are 22 fire districts and departments with jurisdiction in Monterey County, with the North County Fire Protection District (NCFPD) closest to the project site. The NCFPD has three staffed fire stations in its 165-square-mile service area. The station nearest to the project site is located in the neighboring town of Castroville at 11200 Speegle Street, approximately 9 miles southwest of the project site (North County Fire Department 2010).

Although NCFPD has jurisdiction over the project site and oversees the primary firehouse serving the project site, aid may be provided by the City of Salinas Fire Department (SFD), headquartered at 65 West Alisal Street, Suite 210, in Salinas. The SFD has six fire stations staffed by 90 fire suppression personnel. The nearest station to the project site is approximately 5 miles away. Each team of responders sent by SFD would include a paramedic (City of Salinas 2010a).

Police Protection Services

The Monterey County Sheriff's office has three district patrol stations: the Central Patrol Station, the Coastal Patrol Station, and the South County Patrol station. The project site is in the service area of the Central Patrol Station, located in downtown Salinas, approximately 5.5 miles from the project site. The Central Patrol's area is divided into five patrol zones and covers more than 1,400 square miles, extending south to the City of Gonzales, west to Monterey, and north to the county lines adjoining Santa Cruz and San Benito Counties. The patrol areas include agricultural, industrial, residential, recreational, and undeveloped rural areas (Monterey County 2010a).

Schools

The Salinas education system includes seven school districts with 56 public schools and nine private schools (Monterey County 2010b). Lagunita Elementary School is closest to the project area and has the capacity for 82 students and five full-time teachers. The school is located on the west side of San Juan Grade Road, approximately 300 feet south of Crazy Horse Canyon Road and approximately 3,500 feet southwest of the proposed switching station site.

Hospitals

Salinas Valley Memorial Hospital and Natividad Medical Center, two of the County's four hospitals, are located within the City of Salinas. Salinas offers skilled nursing and convalescent homes, as well as residential retirement facilities for seniors and over 200 practicing physicians. There are 416 beds available at the two county hospitals in Salinas. Monterey County's other two hospitals are located in Monterey and King City. Natividad Hospital, the closest hospital to the project site, is equipped with emergency services and is located approximately 6 miles away.

Parks

The nearest county park is Manzanita Regional Park, which is approximately 4.25 miles northwest of the project site. The approximately 500-acre park includes 50 acres developed for youth recreational activities such as soccer, softball, and baseball, as well as multi-use fields, batting

cages, and a bike track (Monterey County 2010c). Additional discussion of parks and potential impacts to parks is provided in Section 3.15, Recreation.

3.14.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government 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:				
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Impacts

a) Would the project result in substantial adverse physical impacts associated with the provision of 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?

The proposed project would not require additional fire services in the area and would not impact fire protection and fire suppression objectives. The new switching station would reduce the potential for failure, thereby reducing the potential for fire. No impacts to fire protection would occur.

ii) Police protection?

The proposed project would not require additional police services in the area. No impacts to police services would occur.

iii) Schools?

The project would be constructed by local PG&E workers who currently live in the area and would commute to the project site. Therefore, the project would not affect school enrollment and no new schools would be necessary. No impacts to schools would occur.

iv) Parks?

Several parks are located in the region. The nearest county park is Manzanita Regional Park, located approximately 4.25 miles northwest of the project site. Project activities would not encroach upon the parks. The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of these facilities would occur or be accelerated, as the parks are located a considerable distance away from the project site, and the size of the project workforce for both construction and operation would be relatively small. Project construction and operation would have no impacts on parks.

v) Other public facilities?

There would be no increase in the local population as a result of the project. Therefore, the project would neither increase demand for, nor alter the level of local public services required in the project area. No impacts to other public facilities would occur.

This page is intentionally left blank

3.15 Recreation

3.15.1 ENVIRONMENTAL SETTING

The project site is located within the North County Planning Area of Monterey County. The North County Area Plan was originally prepared in 1985 and is discussed within the Monterey County Draft General Plan 2007. Throughout the planning area, recreational opportunities are offered at state beaches, county parks, and special district parks. Approximately 1,166 acres of the planning area are used for recreational and/or cultural activities (Monterey County 1985).

Four parks are located within the project region. Additionally, there are three state beaches in the northern portion of the County totaling approximately 480 acres, all of which are located more than 10 miles from the project area.

The nearest County Park is Manzanita Regional Park, which is approximately 4.25 miles northwest of the project site. The approximately 500-acre park includes 50 acres developed for youth recreational activities such as soccer, softball, and baseball, as well as multi-use fields, batting cages, and a bike track (Monterey County 2010). The project site is not located on any land currently used for or proposed to be used for recreation.

3.15.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	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?*	☐	☐	☐	☒
b) *Include recreation facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*	☐	☐	☐	☒

Impacts

a) Would the project 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?

The majority of the project site is located on privately owned agricultural land. Four parks are located within the project region. Project activities would not encroach upon the parks. The project would not increase the use of existing neighborhood and regional parks or other recreational

facilities such that substantial physical deterioration of these facilities would occur or be accelerated. The project would have no impacts on existing parks or recreational facilities.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The project is located within an agricultural area with limited recreational facilities. Four parks are located within the project region; however, project activities would not increase the use of these parks, require their expansion, or require construction of additional recreational facilities. No impacts would occur that might have an adverse physical effect on the environment.

3.16 Transportation and Traffic

3.16.1 ENVIRONMENTAL SETTING

Levels of Service

Roadways and intersections are rated at various levels of service (LOSs). LOS is a measure of roadway operating conditions, ranging from LOS A, which represents the best range of operating conditions, to LOS F, which represents the worst. Basic definitions are presented in Table 3.16-1. LOS can be estimated based the on the road's traffic volume-to-road capacity (v/c) ratio or the average delay experienced by vehicles on the roadway.

Regional Access

U.S. Highway 101

U.S. Highway 101 (U.S. 101) is one of California's primary western freeways, linking San Francisco and Los Angeles. Access to and from U.S. 101 and the project area would be via Crazy Horse Canyon Road. The peak-hour LOS for U.S. 101 in the project vicinity is estimated to be E-F (City of Salinas 2010).

Local Access

The project area would be served by San Juan Grade Road and Crazy Horse Canyon Road. Crazy Horse Canyon Road runs northerly from the project area and intersects with U.S. 101. San Juan Grade Road runs southwesterly from the project area and connects with U.S. 101 via the Boronda Road interchange near Salinas. Roadway characteristics, including traffic volumes and LOSs, for the two local access roads in the project area are summarized in Table 3.16-2.

Alternative Transportation

Bicycle Facilities

The 2008 Monterey County General Bikeways Plan designates San Juan Grade Road and Crazy Horse Canyon Road as routes on which bike lanes will be constructed in the future. There are no officially designated bikeways in the project vicinity (Monterey County 2008).

Table 3.16-1: Level of Service Criteria for Roadways

LOS	v/c	Traffic Flow Characteristics
A	0.00-0.60	Free flow; insignificant delays
B	0.61-0.70	Stable operation; minimal delays
C	0.71-0.80	Stable operation; acceptable delays
D	0.81-0.90	Approaching unstable flow; queues develop rapidly (no excessive delays)
E	0.91-1.00	Unstable operation; significant delays
F	>1.00	Forced flow; jammed conditions

SOURCE: Transportation Research Board 2000

Table 3.16-2: Roadway Characteristics for Local Access Roads in the Project Area

Roadway	Lanes	Classification	Average Daily Traffic Volume	Peak-Hour LOS
San Juan Grade Road	2	Minor Arterial	4,945	D
Crazy Horse Canyon Road	2	Minor Arterial	4,749	C[1]

Note:
1 No data are available. LOS is estimated.

SOURCE: City of Salinas 2010

Transit and Rail Service

Monterey Salinas Transit provides transit services to all of Monterey County. County Express serves the City of Hollister in San Benito County. There are no bus routes or stops within 0.25 mile of the project site. U.S. 101 is the only roadway that would be used for access to the project that also serves as a transit route.

There is no commuter rail service in Monterey County.

Air Traffic

There are no aviation facilities within 2 miles of the project site.

3.16.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Impacts

a) Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Construction

Project construction trips were calculated for the highest intensity vehicle activity period. The calculations were based on the maximum daily construction employee count and delivery of 3,200 cubic yards of aggregate to be used as "top dressing" of the project area. This period would not last longer than 1 to 2 months and the calculations represent a "worst case," conservative analysis. Projected peak daily construction traffic estimates are tabulated in Table 3.16-3.

Table 3.16-4 lists the existing and estimated traffic volumes on Crazy Horse Canyon Road, San Juan Grade Road, and U.S. 101 near the project area. Estimated traffic volumes assume that two-thirds of the daily trips would occur on San Juan Grade Road and one-third would occur on Crazy Horse Canyon Road.

Based on the data in Table 3.16-4, the increase in daily peak-hour traffic volume due to construction would not be discernible from typical daily fluctuations in traffic flow.

Table 3.16-3: Estimated Maximum Daily Construction Traffic

Vehicle Activity	Total Trips
20 Employees (maximum)	40
15 Aggregate Delivery Trucks	30
5 Miscellaneous Deliveries, Inspections, etc.	10
Total Maximum Daily Trips	80

Table 3.16-4: Existing and Estimated Daily Peak-Hour Traffic Conditions on Project Roadways

Roadway	Existing Daily Volume	Estimated Daily Volume With Construction Traffic
Crazy Horse Canyon Road		
North of San Juan Grade Road	4,700	4,727 (+ 0.6%)
South of U.S. 101	5,300	5,327 (+ 0.5%)
San Juan Grade Road[1]		
Russell Road to Rogge Road	10,900	10,953 (+ 0.5%)
Rogge Road to Herbert Road	3,000	3,053 (+ 1.8%)
Herbert Road to Crazy Horse Canyon Road	5,500	5,553 (+ 1.0%)
US 101		
Boronda Road Interchange	66,000	66,027 (+ <0.01%)
Dunbarton Road	57,000	57,053 (+ <0.01%)

Note:

[1] The distribution of construction trips on San Juan Grade Road includes a "worst case," conservative assumption that all construction trips would travel the entire length of the road from the project site to US 101.

SOURCES: Monterey County 2009; Caltrans 2008a

Project construction is scheduled to occur during planned construction of a grade-separated intersection at U.S. 101/Crazy Horse Canyon Road (C. Alinio pers. comm. 2010). During construction of the intersection, it is likely that all project trips would be diverted to San Juan Grade Road. In the event that all of the construction trips are diverted to San Juan Grade Road, the estimated daily volume would not increase by more than approximately 2.7 percent. The impact on San Juan Grade Road from construction traffic would be less than significant and temporary. Traffic flow impacts from construction would be less than significant.

Operation and Maintenance

During project operation, the switching station would be controlled remotely and inspections by PG&E personnel would occur on a monthly basis or as needed under emergency conditions, thereby minimizing the amount of foot and vehicle traffic on site. Ongoing operation of the switching station would have a less than significant impact on traffic flow.

b) Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

The local access roads to be used for project construction and maintenance are not included in the Monterey County Congestion Management Plan (CMP) network (R. Martinez pers. comm. 2010). There is no CMP LOS standard that would apply to the project.

The increase in daily peak-hour traffic volume due to construction would not be discernible from typical daily fluctuations in traffic flow, which can vary by up to 5 percent. Peak construction traffic and minimal traffic associated with recurring maintenance activities would not change the LOS on either Crazy Horse Canyon Road or San Juan Grade Road. There would be no traffic trips associated with project operation other than routine and emergency maintenance activities. Impacts to LOS would be less than significant.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?

Construction

Construction of the project would require the use of a light-duty helicopter. The helicopter would be mobilized from either Salinas Municipal Airport or directly from the operator's facility. The helicopter would be stored and fueled at the 2-acre work space located northwest of the switching station, on the north side of the 500 kV line, and used over a period of a few days between the hours of 7:00 a.m. and 5:30 p.m. The flight path would be between the staging area (landing zone) and various towers, and would follow power lines within the project area. PG&E's helicopter safety procedures would be implemented at all times. The project would have a less than significant impact on air traffic patterns.

Operation and Maintenance

Operation and maintenance activities would not require the use of a helicopter or any other aircraft. There would be no impacts to air traffic patterns.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction

A temporary construction access road would be located on a relatively straight section of Crazy Horse Canyon Road, approximately 1,500 feet north of San Juan Grade Road. The speed limit on Crazy Horse Canyon Road is 55 mph in the project area, and would require 500 feet of sight

distance to the north and south for safe traffic movement (Caltrans 2008b). The available sight distance of the road exceeds the 500-foot standard for 55-mph vehicle speeds (Nickelson 2010). No other construction project features would create potential hazards. Traffic impacts would be less than significant.

Operation and Maintenance

The proposed permanent access road would intersect the outside of a curve on San Juan Grade Road about 1,000 feet east of Crazy Horse Canyon Road. The vehicle speeds in this area range from 25 to 30 mph, which would require 150 to 200 feet of sight distance (Caltrans 2008b). The eastbound direction has the available sight distance; however, the roadway curve to the west appears to allow a maximum of 150 feet of sight distance. Visibility in both directions is limited by foliage along the inside of the curve.

The traffic volume on the segment of San Juan Grade Road east of Crazy Horse Canyon Road is very low (370 daily vehicles) and the potential for vehicle conflicts would be limited (Monterey County 2009). Traffic impacts would be less than significant.

e) Would the project result in inadequate emergency access?

Project activities would not interfere with emergency vehicle access along either Crazy Horse Canyon Road or San Juan Grade Road. The temporary access road would provide emergency access to the project area during project construction, and the permanent access road would provide emergency access to the project area during operation and maintenance. The project would not result in inadequate emergency access. Impacts would be less than significant.

f) Would the project result in inadequate parking capacity?

There are no existing parking areas in the project area. Construction parking would be on the eastern portion of the graded pad (see Figure 2.1-3). Maintenance personnel would park within the switching station during project operation. The project would have no impact on public parking capacity.

g) Would the project conflict with adopted policies, plans, or programs supporting alternate transportation (e.g., bus turnouts, bicycle racks)?

The project would not conflict with adopted alternative transportation policies, plans, or programs. The project area is not near any public bus routes. The low increase in traffic resulting from the project would have no impact on transit service.

The 2008 Monterey County Bikeways Plan designates San Juan Grade Road and Crazy Horse Canyon Road as routes on which bike lanes will be constructed in the future (Monterey County 2008). No bicycle facilities are currently provided or proposed for construction in the near future; therefore, the project would have no impact on bicycle access.

3.17 Utilities and Service Systems

3.17.1 ENVIRONMENTAL SETTING

Utilities

Water Supply

The nearby City of Salinas is served by two investor-owned water utilities regulated by the CPUC: Alco Water Service and California Water Service (CWS). Most water is supplied to these utilities by deep wells within and near the City of Salinas. Saltwater intrusion to these wells has been a concern. In the Salinas area, CWS's water supply is produced from 30 wells and transferred to customers through a local distribution system. The system includes three large storage tanks (totaling approximately 4,500,000 gallons) (CWS 2010).

Individual properties in rural areas are served by private water wells, which are under the jurisdiction of the Environmental Health Division of the Monterey County Health Department (Monterey County 2010a). There are no existing wells within the project boundaries; therefore, water supply for the proposed project would be obtained from an off-site PG&E facility that has existing water entitlements.

Electricity and Natural Gas

Electricity and gas service in Monterey County is provided by PG&E. The Crazy Horse Canyon Switching Station project has been proposed to increase electric reliability and delivery to PG&E customers in Monterey County.

Service Systems

Wastewater and Stormwater

The City of Salinas operates its own separate stormwater and sanitary sewer systems. These municipal systems do not extend into the project area. There is no stormwater system serving the project site. Stormwater in rural unincorporated areas typically percolates, flows to the nearest water course, or flows to on-site private storm drains. Septic tanks or portable sanitary facilities handle sewage for rural areas not serviced by the City's sewer system.

Solid Waste Disposal

There are three landfills in Monterey County. The landfill closest to the project site is the Crazy Horse Sanitary landfill, located approximately 1.5 miles northwest of the project area. The Crazy Horse Sanitary landfill currently is undergoing site closure (California Integrated Waste Management Board 2010).

Collection and disposal of refuse services for Salinas and the project site would be provided by BFI Waste Services of Salinas. The Salinas Valley Solid Waste Authority (SVSWA) is a joint powers agency consisting of several local governments: Monterey County (eastern half of the unincorporated county) and the cities of Gonzales, Greenfield, King City, Salinas, and Soledad. The SVSWA provides secure, long-term solid waste disposal services to the Salinas Valley.

Communication Services

Telephone service is provided by AT&T and cable television service is provided by Comcast.

3.17.2 ENVIRONMENTAL IMPACTS AND ASSESSMENT

Checklist

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) 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 provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Impacts

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Minimal amounts of wastewater would be generated during construction. Wastewater generated would be limited to portable sanitary facilities and would be transported to the nearest wastewater treatment plant. The addition of the project's minimal amounts of wastewater to existing wastewater treatment plants would not cause any wastewater treatment facility to exceed wastewater treatment requirements of the RWQCB. No wastewater would be generated during project operation, as no employees would be on site except during maintenance activities. The project would have a less than significant impact on wastewater treatment requirements.

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental impacts?

Water would primarily be used for dust control, as specified in Section 3.3, Air Quality, and for personal consumption by workers during project construction. Water for dust control would be transported in water trucks from nearby off-site sources (PG&E yards at Moss Landing or Salinas that have existing water entitlements).

Personal supplies of drinking water for both construction and maintenance workers would be transported to project work sites. Wastewater generated by project construction would not exceed treatment capacity at any regional facilities. Wastewater would not be generated during project operation, as no employees would be on site except during maintenance activities. Project construction would not result, either directly or indirectly, in new or expanded development requiring new municipal drainage or stormwater facilities. Impacts would be less than significant.

c) Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

The project would involve construction of a switching station and the reconfiguration of existing power lines. On-site stormwater would be managed consistent with the Spill Prevention, Control, and Countermeasures Plan (SPCCP) and the SWPPP (refer to Section 3.9, Hydrology and Water Quality and APM Hydrology-2, for additional discussion of the SWPPP). The proposed project would include the construction of new stormwater drainage facilities in and around the new switching station. The drainage facilities would be included in a drainage plan prepared in combination with the engineering design of the project. Implementation of APM Hydrology-2 and mitigation measures Geology-7 and Geology-8 would reduce impacts to stormwater drainage to a less than significant level.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Water supplies required for the project would be minimal and supplied from local sources, as needed, and would be transported to project work sites with construction equipment. Construction activities would not increase the demand for public water supplies because sufficient sources of water would be available from off-site potable sources at existing PG&E facilities. No impacts would occur.

e) Would the project 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 provider's existing commitments?

During construction, the proposed project would generate small amounts of wastewater from portable sanitary facilities provided for workers. Sanitary waste would be disposed of at licensed facilities with adequate capacity. Regional wastewater facilities in the area have wastewater disposal capacities capable of supporting the project's wastewater treatment and disposal requirements during project construction. Wastewater would not be generated during project operation, as no employees would be on site except during maintenance activities. The project would have a less than significant impact on wastewater facilities.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Waste generated by the project would consist of construction debris. Approximately 35 gallons of food, glass, paper, plastic, and packing materials would be generated for every week of construction activity. In addition, a total of approximately 30 cubic yards of packing materials would be hauled away from the site. These packing materials would include materials such as cardboard, bubble wrap, and plastic wrap, and this waste would be generated when materials are being delivered to the site. Construction debris would be transported on a line truck to an off-site location for recycling or disposal. Project operation would be expected to produce a minimal amount of waste material, which would be transported from the project site and taken to an appropriate off-site location for disposal or recycling. The project would have a less than significant impact on existing landfill capacity.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The project would produce solid waste, but all waste generated from construction, operation, or maintenance activities would be disposed of according to all applicable federal, state, and local statutes and regulations related to solid waste. No impacts would occur.

3.18 Mandatory Findings of Significance

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Have the potential to 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?	☐	☒	☐	☐
b) 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.)	☐	☒	☐	☐
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Would the project have the potential to 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?

The project could impact biological resources, including natural habitats and special-status species. Mitigation has been identified for the protection of special-status species such as, but not limited to, CTS, CRLF, American badger, burrowing owl, and other migratory bird and bat species. There is no designated critical habitat for any federally listed species in the project area. The project could also require obtainment of a Section 7 consultation with the USFWS and/or an Incidental Table Permit from the CDFG to fully mitigate potential impacts to federally or state listed species, respectively. Impacts to sensitive habitats would be temporary and less than significant with the implementation of mitigation measures.

Disturbance to wetland habitats could result in potentially significant impacts to several special-status plants and wildlife. Implementation of mitigation measures would reduce impacts to wetlands to a less than significant level.

Project construction would include ground-disturbing activities that could adversely affect the integrity of cultural deposits, resulting in the loss of cultural and/or historical information and the alteration of the setting of a historical resource, if these resources are present. Documented cultural resources and newly discovered resources identified during the cultural resources survey would be avoided to the greatest extent feasible; however, if avoidance of the resource is not possible, then the resource would be evaluated for CRHR or National Register of Historic Places eligibility. The project has the potential to encounter previously undiscovered significant cultural resources. Impacts to cultural resources would be less than significant with implementation of mitigation measures.

Operation and maintenance of the proposed project would not include ground-disturbing activities or any other activities that would create a potential to degrade the quality of the environment, reduce the habitat or population of a fish or wildlife species, or eliminate important examples of the major periods of California history. Impacts from project operation would be less than significant.

b) Would 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.)

Related Projects

A list of cumulative projects pertinent to this analysis is provided in Table 3.18-1. The list includes projects within the vicinity of the North County of Monterey planning area. The projects were reviewed to identify whether the proposed project could contribute to cumulatively significant impacts when evaluated in combination with these projects. One related project, the PG&E Hollister 115 kV Power Line Reconductoring Project, is located within the proposed project area.

Cumulative Impacts

Aesthetics

Construction of the proposed project would result in temporary visual changes to the area from the presence of construction activities, equipment, and personnel. Implementation of the proposed project would result in long-term visual changes to the visual quality of the area from the presence of the switching station facilities. Temporary and permanent project-related impacts would be reduced to less than significant levels with the implementation of mitigation measures.

Work for the PG&E Hollister 115 kV Power Line Reconductoring Project would occur within the proposed project area at the existing Lagunitas Switch at the same time as construction of the proposed project. The projects could result in cumulative impacts to the existing visual quality of the area during construction; however, impacts would be temporary and less than significant.

Table 3.18-1: Cumulative Projects in the Project Vicinity

Project Name	Description	Location	Status
U.S. 101/Crazy Horse Canyon Road Grade Separation	Caltrans project to create a grade separation at the intersection of U.S. 101 and Crazy Horse Canyon Road.	Intersection of U.S. 101 and Crazy Horse Canyon Road. Approximately 4 miles north-northwest of the project.	Construction schedule is likely to coincide with that of the proposed project.
Robinett Property	Minor subdivision of a 21.3-acre parcel into four lots.	2772 El Camino Real, Salinas. Approximately 3.25 miles northwest of the project.	Project application is incomplete. Construction schedule is unknown.
Oak Trail Subdivision	Subdivision of a 32.2-acre parcel into 13 market-rate lots and three inclusionary housing lots for a total of 16 lots, providing for the development of 18 dwelling units.	8100 North Prunedale Road, Prunedale. Approximately 3.75 miles west of the project.	Environmental review is in progress. Construction schedule is unknown.
Whitehead Property	Combined development permit consisting of three project elements. The first element would be a coastal development permit for a lot line adjustment, which would take approximately 4.9 acres from an existing 35.16-acre lot and add it to an approximately 35.74-acre lot. The second project element would include a subdivision of the resulting 30.26-acre parcel into six parcels. The third project element would be a use permit for development on 30 percent slope.	1449 Castroville Boulevard, Castroville. Approximately 7 miles west of the project.	Project application is incomplete. Construction schedule is unknown.
Argueta Property	Construction of an approximately 320-square-foot single-story sales office and an approximately 1,700-square-foot outdoor car display area for an auto sales business.	Intersection of Walsh and Merritt Streets, Castroville. Approximately 8.25 miles west of the project.	Project application is incomplete. Construction schedule is unknown.

Table 3.18-1 *(Continued)*: Cumulative Projects in the Project Vicinity

Project Name	Description	Location	Status
Accustom Development	Construction of an approximately 4,800-square-foot light commercial building, four 1,280-square-foot covered parking spaces, and an approximately 4,828-square-foot single-family dwelling with an attached garage.	10100 Reese Circle, Salinas. Approximately 3.75 miles west of the project.	Project application is incomplete. Construction schedule is unknown.
Mohssin Property	Construction of a 30 multi-family residential units in four buildings on an approximately 1.534-acre lot.	Intersection of Merrit and Poole Street, Castroville. Approximately 8.5 miles west of the project.	Project application is complete. Construction schedule is unknown.
Aladin Property	Construction of an approximately 23,628-square-foot, 12-unit warehouse/commercial facility.	11160 Commercial Parkway, Castroville. Approximately 8.5 miles west of the project.	Project application is pending approval. Construction schedule is unknown.
Pajaro Community Park	Construction of a community park on a 4-acre site.	Intersection of West San Juan Road and West Porter Road Drive, Pajaro. Approximately 12 miles northwest of the project.	Project application has been submitted. Construction schedule is unknown.
Castroville Water District	Combined development permit consisting of two project elements. The first element would include construction of an approximately 2,800-square-foot metal building for the storage of sewer maintenance equipment and vehicles. The second element would include a use permit for a reduction in the number of required parking spaces.	11301 Wood Street, Castroville. Approximately 8.25 miles west of the project.	Project application is pending approval. Construction schedule is unknown.
Butterfly Village	Construction of a planned community, which includes 1,077 homes, commercial space, golf course, parks, and a sewage treatment plant on	North of Russell Road, Salinas. Approximately 4.25 miles	Project is pending in the formal application

Table 3.18-1 *(Continued)*: Cumulative Projects in the Project Vicinity

Project Name	Description	Location	Status
	a 671-acre site.	southwest of the project.	review process. Construction schedule is unknown.
PG&E Hollister 115 kV Power Line Reconductoring Project	Replace conductors on two segments (16 miles) of the 115 kV electrical power line system near Hollister and San Juan Bautista.	Monterey and San Benito Counties. One segment of the lines ends at the existing Lagunitas Switch.	Project is pending in the formal application review process. Construction is expected in 2011.
Moss Landing-Salinas-Soledad Avian Retrofit Project	Avian retrofit of 45 miles of the Moss Landing-Salinas-Soledad 115 kV lines and replacement of insulators from Prunedale to Soledad.	Monterey County. Approximately 7 miles west of the project.	Project is currently under construction.

SOURCES: Monterey County 2008, 2010a, and 2010b

Permanent visual impacts from the proposed project would not contribute to significant permanent cumulative visual impacts with the implementation of mitigation measures, which would require the use of vegetation to screen operation facilities, thereby reducing permanent impacts to a less than significant level. The other cumulative projects in Table 3.18-1 would not be located within the same viewshed as the proposed project.

Agricultural Resources

Construction activities for the proposed project would impact existing agricultural land use; however, most of the land would be returned to agricultural land use once construction of the proposed project is completed. The project would permanently convert a very small portion of farmland within Monterey County (i.e., 0.0009 percent) to non-agricultural use. The cumulative projects in Table 3.18-1 would not impact the same agricultural lands as the proposed project. The amount of permanent loss of agricultural land for the proposed project would not contribute to a significant loss of farmland, even when considering the cumulative impacts of other projects.

Air Quality

Air emissions during construction of the proposed project would be less than significant based on Appendix G of the CEQA Guidelines and the significance thresholds defined by the MCUAPCD.

Three of the cumulative projects in Table 3.18-1 potentially could be constructed at the same time as the proposed project, including the U.S. 101/Crazy Horse Canyon Road grade separation project, the PG&E Hollister 115 kV Power Line Reconductoring project, and the Moss Landing-

Salinas-Soledad Avian Retrofit project. Each of the cumulative projects would be required to adhere to applicable regulations, and would be required to implement mitigation to reduce air emissions during construction to less than significant levels. Measures would likely include fugitive dust control, use of low-emission fuels, and installation of filters on heavy equipment. Any potential adverse cumulative air quality impacts would be short-term (lasting only the duration of construction) and would not be cumulatively considerable; therefore, cumulative air quality impacts would be less than significant.

Impacts to air quality during operation would be associated with maintenance and repair activities and would be less than the MCUAPCD significance thresholds; therefore, no significant contribution to cumulative impacts would occur.

Greenhouse Gases

Construction of the project would result in emission of GHGs from on-site construction equipment and off-site worker trips. The most common GHGs associated with fuel combustion are CO_2, CH_4, and N_2O. Impacts from the proposed project would be less than significant because GHG emissions for the project would be well below existing quantitative significance thresholds.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. Construction of the cumulative projects would create similar GHG emissions from construction vehicles and equipment. The cumulative projects would be subject to evaluation of potential impacts from GHG emissions and, where appropriate, to the implementation of BMPs. Any potential adverse cumulative GHG impacts would be short-term and not cumulatively considerable; therefore, project GHG emissions would have a less than significant cumulative impact.

Impacts from GHGs during operation would be associated with maintenance and repair activities and would be less than significant; therefore, the project's contribution to cumulative impacts would be minimal and would result in a less than significant cumulative impact.

Biological Resources

Potential impacts to biological resources could occur from construction and could include impacts to special-status species and sensitive plant communities. Potential impacts from the proposed project would be less than significant with the implementation of mitigation measures.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. One of these projects would be located within the proposed project area. Each project would be required to adhere to applicable regulations, and would be required to implement mitigation measures, where applicable, to reduce impacts to biological resources during construction. The cumulative biological resource impacts of the proposed project would, therefore, be less than significant.

Operation and maintenance of the proposed project would not create an impact to biological resources; therefore, the project's contribution to cumulative impacts would be minimal and would result in a less than significant cumulative impact.

Cultural Resources

With the implementation of mitigation measures, neither short-term construction activities nor operation and maintenance activities would affect any known cultural resources. Workers would be trained to identify potential cultural resources and to halt and redirect construction activities in the event that previously unidentified cultural resources are discovered. No cultural resources would be affected during project construction or operation, and no contribution to cumulative impacts would occur.

Geology and Soils

Anticipated impacts to geologic features from the proposed project would be less than significant. The project would not increase potential risks associated with a seismic event or impacts from collapsible or expansive soils. Short-term construction impacts to soils, including unstable soils, have the potential to occur; however, implementation of mitigation measures would reduce the impacts to a less than significant level.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. One of these projects would be located within the proposed project area. Cumulative impacts to local geology and soils could result from erosion or siltation during construction and implementation of the projects. Each project would be required to adhere to applicable regulations, and would be required to implement mitigation measures, as applicable, to reduce geologic impacts during construction. Potential cumulative impacts to geology and soils from the proposed project would, therefore, be less than significant.

Hazards and Hazardous Materials

The use of hazardous materials for the project would be minimal during construction and operation. Hazardous materials would be stored and used in compliance with applicable regulations. Impacts from routine use, transportation, disposal, and accidental spillage of hazardous materials would be less than significant.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. One of these projects would be located within the proposed project area. Hazards or hazardous materials from the proposed project would be contained and impacts would be mitigated before impacts could cumulatively combine with the other projects to create a significant impact. All projects would be required to comply with federal, state, and local safety regulations to minimize risk to the surrounding public. Potential cumulative impacts from hazards and hazardous materials would be less than significant.

Hydrology and Water Quality

The proposed project has the potential to cause temporary impacts to nearby waterways and to water quality during construction. These impacts could include erosion, increased runoff and sedimentation, and the accidental release of hazardous materials. These temporary impacts would be less than significant with the implementation of mitigation measures.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. One of these projects would be located within the proposed project

area. Each project would be required to adhere to applicable regulations, and would be required to implement mitigation to further reduce hydrology and water quality impacts during construction. The project's cumulative hydrology and water quality impacts would, therefore, be less than significant.

Operation and maintenance of the proposed project would not create an impact to hydrology and water quality; therefore, no contribution to cumulative impacts would occur.

Land Use

The project is located within an existing utility right-of-way. The project would have a less than significant impact to applicable land use policies and regulations; therefore, the project would not contribute to cumulative impacts to land use.

Mineral Resources

No commercial mineral resources are known to exist within the project area, and the proposed project would not result in the loss of availability of a known mineral resource; therefore, the project would not contribute to potential cumulative impacts that may result in the loss of mineral resources.

Noise

The proposed project is not expected to contribute to a long-term cumulative impact on ambient noise levels in the project area. Noise from construction activities would be short-term and limited to daytime hours. Impacts from noise to nearby sensitive receptors would be less than significant.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. One of these projects would be located within the proposed project area. All projects would be required to comply with local noise thresholds and standards. Potential cumulative impacts from noise would be less than significant.

Population and Housing

The proposed project would not result in impacts to population and housing. Construction workers would be drawn from existing local PG&E staff, which is anticipated to be sufficient to complete the project. The project would not displace any existing housing or people. The proposed project would not contribute to significant cumulative impacts because it would have no impacts on population and housing.

Public Services

The proposed project would not result in significant impacts to public services. The proposed project would not require the cessation or interruption of fire or police protection services and would not interfere with the use of schools or other public facilities. The project would require temporary restricted access to local parks. Impacts would be less than significant and would not contribute to a cumulatively significant impact on the public services in the project area.

Recreation

The proposed project would not cause a substantial increase in the use of or physical deterioration of parks or recreational facilities. The project would not contribute to cumulative effects associated with other projects.

Transportation and Traffic

Construction of the proposed project would have the potential for temporary impacts to traffic volumes, LOS standards, road hazards, and emergency access. These impacts would be less than significant. Given the location of the project area in relation to other development projects in the region, the transportation network is sufficient to accommodate construction traffic to avoid significant impacts to any one area.

The construction schedules of two of the cumulative projects in Table 3.18-1 could overlap with that of the proposed project. One of these projects would be located within the proposed project area. Potential cumulative traffic impacts would be less than significant based on the temporary and relatively small expected increase in traffic volume due to the proposed projects.

Project construction would require the use of a light-duty helicopter. Temporary impacts to air traffic patterns would be less than significant. These temporary air traffic impacts would not contribute to a cumulatively significant impact on air traffic in the project area.

Impacts to traffic and transportation during operation and maintenance would be negligible; therefore, no contribution to cumulative impacts would occur.

Utilities and Service Systems

Implementation of other development projects could result in potential cumulative impacts to utilities, particularly local water supplies and wastewater facilities. In contrast, construction of the proposed project would temporarily require a minimal water supply and generate minimal amounts of wastewater. Construction would require the disposal of a less than significant amount of all types of waste. No expanded facilities or services would be needed for the project, and use and disposal of all water and waste products would comply with all applicable laws and regulations. Cumulative project impacts on utilities and service systems during project construction would, therefore, be less than significant.

Impacts to utilities and service systems during operation and maintenance would be minimal; therefore, no contribution to cumulative impacts would occur

c) Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The project would not adversely affect human beings either directly or indirectly. Environmental parameters with potential to impact human health would include impacts from changes to air quality and existing hazards and hazardous material use. Potential impacts from hazards and hazardous materials or air quality, and other environmental resources that could affect human beings, would be reduced to a less than significant level with the implementation of mitigation.

The project would have a beneficial effect on residents in the area by providing a more flexible and reliable electrical power service.

4: Mitigation Monitoring Plan

4.1 Mitigation Monitoring Implementation

Pacific Gas and Electric Company (PG&E) proposes to construct a new switching station and perform associated power line modifications to the connecting 115 kV lines. An Initial Study (IS) was prepared to assess the project's potential environmental effects based on information in the Proponent's Environmental Assessment (PEA), project site visits, responses to data requests, and supplemental research. The majority of the project's impacts would occur during project construction. Within PG&E's application, Applicant Proposed Measures (APMs) were proposed to reduce potentially significant adverse impacts related to project construction and operation.

The purpose of this Mitigation Monitoring Plan (MMP) is to ensure effective implementation of each APM, as well as the mitigation measures identified in the Mitigated Negative Declaration (MND) and imposed by the California Public Utilities Commission (CPUC) as part of project approval.

The MMP is presented below in Table 4.1-1 and includes:

- APMs and mitigation measures that PG&E must implement as part of the project
- Actions required to implement these measures
- Monitoring requirements
- Timing of implementation for each measure

The CPUC will use the MMP as the framework for a Mitigation Monitoring, Compliance, and Reporting Plan (MMCRP). The MMCRP will be created by the CPUC to formalize protocols to be followed prior to and during construction by CPUC third-party environmental monitors (CPUC EMs) and PG&E project staff. The MMCRP will include, but will not be limited to, the following topics:

- Agency Jurisdiction
- Roles/Responsibilities
- Communication
- Compliance Verification and Reporting
- Project Changes

Final language of the MMCRP will be made in consultation with PG&E. Drafted language for the project variance and dispute resolution protocols are provided below.

4.1.1 PROJECT VARIANCES

The CPUC Project Manager, along with the CPUC Monitoring Team, will ensure that any variance process or deviation from the procedures identified in the monitoring program is consistent with CEQA requirements. No project variance will be approved by the CPUC if it creates new significant impacts. A variance should be strictly limited to minor project changes that will not

trigger other permit requirements unless the appropriate agency has approved the change, that does not increase the severity of an impact or create a new impact without appropriate agency approval, and that complies with the intent of the mitigation measure.

A proposed project change that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental California Environmental Quality Act (CEQA) review is required. Any proposed deviation from the approved project, adopted mitigation measures, or APMs, and correction of such deviation, will be reported immediately to the CPUC Monitoring Project Manager for their review. The CPUC Monitoring Project Manager will review the variance request to ensure that all of the information required to process the variance is included, and then forward the request to the CPUC Project Manager for review and approval. The CPUC Project Manager may request a site visit from the CPUC Environmental Monitors (EM), or may need additional information to process the variance. In some cases, a variance may also require approval by jurisdictional agencies. In general, a variance request must include the following information:

- Detailed description of the location, including maps, photos, and/or other supporting documents
- How the variance request deviates from a project requirement
- Biological resource surveys or verification that no biological resources would be significantly impacted
- Cultural resource surveys or verification that no cultural resources would be significantly impacted
- Agency approval (if necessary)

4.1.2 DISPUTE RESOLUTION

It is expected that the MMCRP will reduce or eliminate many potential disputes; however, even with the best preparation, disputes may occur.

Issues should be first addressed at the field level informally between the CPUC EMs and PG&E's EMs at the regular progress meetings. Questions may be raised to the PG&E Project Manager or PG&E Construction Manager. Should the issue persist or not be resolved at these levels, the following procedures will be used:

- **Step 1.** Disputes unresolved in the field and complaints (including those from the public) should be directed to the CPUC Project Manager for resolution. The Project Manager will attempt to resolve the dispute informally. Should this informal process fail, the CPUC Project Manager will inform PG&E prior to initiating Step 2.
- **Step 2.** Should this informal process in the field fail, the CPUC Project Manager may issue a formal letter requiring corrective actions to address the unresolved or persistent deviations from the Proposed Project or adopted MMP.
- **Step 3.** If a dispute or complaint regarding implementation or evaluation of the Program or mitigation measures cannot be resolved informally or through a letter request, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other

affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants to resolve the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it to the filer and other affected participants.

- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties may also seek review by the CPUC through existing procedures specified in the CPUC Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

Table 4.1-1: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
Aesthetics		
APM Aesthetics-1. Construction activities will be kept as clean and inconspicuous as practical. Where practical, construction storage and staging will be screened from close-range residential views.	Verify construction activities are orderly through on-site observations.	During construction
APM Aesthetics-2. All disturbed terrain at the switching station site will be restored through recontouring and revegetation using a seed and plant mixture approved by a qualified landscape/ horticultural professional.	Verify seed and plant mixture approval by a qualified professional through documentation. Verify recontouring and revegetation of disturbed terrain through on-site observations.	Prior to revegetation and post-construction
APM Aesthetics-3. Project landscaping will screen views of the new facility and help integrate its appearance with the surrounding landscape setting. Project landscaping will involve the installation of informal groupings of native trees and shrubs around the perimeter of the switching station and along San Juan Grade Road in order to provide visual screening.	Verify vegetative screening of facility through on-site observations.	Post-construction
APM Aesthetics-4. Non-specular conductors will be used to reduce the potential for new sources of glare. A non-reflective finish will be used for switching station equipment to reduce the potential for new sources of glare.	Verify use of non-specular conductors through on-site observations.	Prior to installation of conductors
APM Aesthetics-5. The project will incorporate use of an entry gate design to blend in with the existing rural setting found along on San Juan Grade Road and the general project area.	Verify design of entry gate through photodocumentation.	Prior to installation of entry gate

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
Mitigation Measure Aesthetics-6. PG&E shall implement the following measures to reduce construction-related visual effects as seen from the KOPs and within the immediate surroundings of the project area: 1. Grading and construction limit lines shall be delineated on the ground for all access roads and power line routes. 2. Construction equipment shall be removed from the project area when no longer needed. 3. All ground disturbances caused by construction, staging, and temporary access road construction shall be restored and revegetated at the earliest feasible time.	Verify installation of limit lines, and verify restoration through on site observations Verify revegetation through on site observations.	Prior to clearing and grading activities Prior to end of construction
Mitigation Measure Aesthetics-7. PG&E shall use the following method to promote healthy revegetation of slopes constructed for the entrance road and switching station to reduce visual contrast: 1. In areas to be graded, all topsoil up to a depth of 1 foot shall be removed, stockpiled, and used as a final fill layer on constructed slopes.	Verify implementation of measures through on-site observations.	During construction
Mitigation Measure Aesthetics-8. PG&E shall prepare and submit to Monterey County for review a full set of plans and specifications based on the Conceptual Landscape Plan presented on Figure 3.1-5, with the following additions and/or changes to the plan recommendations: 1. The planting design shall emphasize visual screening of the switching station and related facilities as seen from San Juan Grade Road or Old Stage Road and take into consideration biological mitigation measures. 2. New trees and shrubs to be installed at the site shall be locally grown, to the extent feasible. New plant material may include	Verify implementation of restoration and revegetation measures through on-site observations.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
nursery grown stock and, if feasible, propagules locally collected and grown to a maximum dee-pot or tree-pot container size. Tree and shrub planting shall occur in fall or early winter when the rainy season has commenced.		
Air Quality		
APM Air Quality-1. The project will implement all of the following Best Management Practices (BMPs): 1. Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure. 2. Suspend all grading activities during periods of high wind (over 15 miles per hour (mph)). 3. Apply chemical soil stabilizer on inactive construction areas (defined as disturbed lands within the project area that are unused for at least four consecutive days). 4. Apply non-toxic soil binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area. 5. Cover all trucks hauling dirt, sand or loose materials. 6. Plant vegetative ground cover in disturbed areas as soon as possible. 7. Cover inactive storage piles. 8. Install wheel washers at the entrance to construction sites for all exiting trucks. 9. Sweep public roads if visible soil material is carried out from the construction site.	Verify implementation of BMPs through on-site observations.	Prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
10. Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. 11. The phone number of the Monterey Bay Unified Air Pollution Control District (MCUAPCD) shall be visible to ensure compliance with Rule 402 (nuisance). 12. Limit the area of earth disturbing activities at any one time.		
Greenhouse Gases		
APM GHG-1. PG&E will implement the following measures to address GHG emissions: 1. Identify park-and-ride facilities in the project vicinity and encourage construction workers to carpool to the job staging area to the extent feasible. The ability to develop an effective carpool program for the proposed project will depend upon the proximity of carpool facilities to the staging area, the geographical commute departure points of construction workers, and the extent to which carpooling will not adversely affect worker arrival time and the project's construction schedule. 2. Minimize unnecessary idling time – less than the 5-minute maximum idling required by law – through application of a "common sense" approach to vehicle use. If a vehicle is not required immediately or continuously for construction activities, its engine will be shut off. Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain	Verify implementation of BMPs through on-site observations.	Prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. 3. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the California Air Resources Board (CARB) Statewide Portable Equipment Registration Program, or will meet at a minimum U.S. Environmental Protection Agency (EPA)/CARB Tier 1 engine standards. Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program, or will meet at a minimum USEPA/CARB Tier 1 engine standards. 4. Minimize welding and cutting by using compression of mechanical applications where practical and within		

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
standards. 5. Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available. 6. Encourage the recycling of construction waste where feasible.		
APM GHG-2. To further avoid and minimize potential SF_6 emissions, PG&E will incorporate the following measures: 1. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF6 emission reduction program. Incorporate Crazy Horse Canyon Switching Station into PG&E's system-wide SF6 emission reduction program. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF6 inputs, and inventory and monitor SF6 leakage rates in order to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF6 handling and accidental releases. As an active member of EPA's SF6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF6 emissions from its transmission and distribution operations and has reduced the SF6 leak rate by 89 percent and absolute SF6 emissions by 83 percent. 2. Require that Crazy Horse Canyon Switching Station's breakers have a manufacturer's guaranteed leakage rate of 0.5 percent per year or less for SF6. 3. Maintain substation breakers in accordance with PG&E's maintenance guidelines. 4. Comply with California Air Resources Board Early Action	Verify implementation of BMPs through on-site observations.	Prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
Measures as these policies become effective.		
APM GHG-3. In addition to these measures, PG&E is implementing the following voluntary company-wide actions to further reduce GHG emissions: 1. Pacific Gas & Electric Company supports the Natural Gas STAR, a program promoting the reduction of methane from natural gas pipeline operations. Since 1998, PG&E has avoided the release of thousands of tons of methane. 2. In June 2007, PG&E launched the ClimateSmart program, a voluntary greenhouse gas (GHG) emissions reduction program that allows its customers to balance out the GHG emissions produced by the energy they use, making their energy use "climate neutral." For ClimateSmart customers, PG&E calculates the amount needed to fund sufficient GHG emissions reduction projects in California to make their energy use "climate neutral." This is added to the customer's monthly energy bill and is tax deductable. 3. Pacific Gas & Electric Company is offsetting all of the GHG emissions associated with energy used in PG&E's buildings by participating in its ClimateSmart program. In 2007, this amounted to over 50,000 tons of CO_2 reductions. 4. California Air Resources Board plans to adopt AB-32 Early Action Measures to reduce GHG emissions. PG&E will implement the appropriate Early Action Measures as they become effective.	Verify participation in Natural Gas STAR program, participation in ClimateSmart program, and implementation of AB 32 Early Action Measures through documentation or on-site observations.	During construction and prior to operation
Biological Resources		
APM Biology-1. All food scraps, wrappers, food containers, cans, bottles, and other	Verify daily removal of trash	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
trash from the project area will be deposited in closed trash containers. Trash containers will be removed from the project area at the end of each working day.	through on-site observations.	
APM Biology-2. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road parking shall only be permitted in previously identified and designated work areas.	Verify locations of vehicle and equipment parking through on-site observations.	During construction
APM Biology-3. Vehicles will be confined to established roadways and pre-approved access roads, overland routes and access areas. Access routes and temporary work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Vehicular speeds will be kept to 15 mph on unpaved roads.	Verify boundaries of the project area and vehicle speeds through on-site observations.	During construction
APM Biology-4. All equipment will be maintained such that there will be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated staging areas located at least 100 feet from any down gradient aquatic habitat unless otherwise isolated from habitat. Proper spill prevention and cleanup equipment shall be maintained in all refueling areas.	Verify location of refueling and maintenance of vehicles and ensure no leaks occur through on-site observations.	During construction
APM Biology-5. No pets or firearms will be permitted at the project site.	Verify there are no pets or firearms on site through on-site observations.	During construction
Mitigation Measure Biology-6 (proposed to supersede APM Biology-6). Clearing and grading activities shall be limited to work areas only. Grading and vegetation-clearing activities shall be minimized along access roads and at pole and tower work areas. Vegetation shall be cut at ground level, leaving the existing root systems intact where possible.	Verify location of clearing and grading activities through on-site observations.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
APM Biology-7. In areas that will be restored following construction of the facility, PG&E will minimize clearing of oaks to only what is required to maintain a safe facility. In these areas, PG&E will endeavor to retain a representative sample of sizes, ages and species of oaks with special emphasis placed on retaining samplings.	Verify location of clearing activities.	During and post-construction
Mitigation Measure Biology-8 (proposed to supersede APM Biology-8). A USFWS-approved biologist shall design and lead a Worker Environmental Awareness Program (WEAP) for all construction and on-site personnel prior to beginning construction activities. Training shall include a discussion of avoidance and minimization measures to be implemented to protect biological resources, as well as the terms and conditions of the Biological Opinion and other permits. Training shall include information on the federal and state ESAs, the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act, and the consequences of noncompliance with these acts. Workers shall be informed of the presence, life history, and habitat requirements of all special-status species, including the CRLF, with a potential to be affected within the project area. The training shall include a description of the CRLF and its habitat and the importance of the CRLF and its habitat, along with the general measures that are being implemented to conserve the CRLF, as they relate to the project. Training shall include information on state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure shall be produced for construction crews working on the project. The brochure shall include color photos of sensitive species as well as a discussion of mitigation measures. No construction worker shall be involved in field operations without having participated in this special-status species/sensitive habitat informational training. A copy of the WEAP shall be submitted to the CPUC at least 30 days prior to construction. Training attendance sheet(s) shall be submitted to the CPUC after each training session.	Verify content of training materials and submittal of training attendance sheets through documentation.	Prior to and during construction
APM Biology-9. A qualified biological monitor will be on site during all ground-disturbing construction activities in or near sensitive habitats previously identified. The monitor will ensure implementation of and compliance with all APMs. The	Verify biological monitoring activities through	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
monitor will have the authority to stop work or determine alternative work practices in consultation with agencies and construction personnel as appropriate if construction activities are likely to impact sensitive biological resources. The biological monitor will complete daily logs to document construction activities and environmental compliance. The daily logs will be included in the project report submitted to the appropriate agencies following completion of construction. The biological monitor will be responsible for reporting any capture and relocation, harm, entrapment, or death of a listed species to the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Game (CDFG) and for reporting any permit violations in a timely manner and as indicated in their respective permits.	documentation.	
APM Biology-10. Sensitive resources identified during pre-construction surveys in the project vicinity will be mapped and clearly marked in the field. Such areas will be avoided during construction to the extent practicable and/or additional measures specific to sensitive species types as described herein and that may be required by the United States Army Corps of Engineers (USACE), USFWS, CDFG, and Regional Water Quality Control Board (RWQCB) permits, will be implemented to avoid or minimize impacts.	Verify field marking of sensitive resource areas through on-site observations.	Prior to and during construction
APM Biology-11. PG&E will design the project to avoid the intermittent drainages and seasonal wetlands to the extent practicable. However, where impacts to the drainages and wetlands cannot be avoided PG&E will provide compensation as required by the USACOE, USFWS, CDFG, and RWQCB.	Verify avoidance of drainages through on-site observations. Verify coordination with appropriate agency(ies) when avoidance is not possible, through documentation.	During construction
APM Biology-12. Work in aquatic or wetland habitat is limited to the installation of the permanent access road in the wetland located adjacent to San Juan Grade Road. All ground-disturbing work at this location will take place in dry conditions.	Verify surface water conditions in work areas through on-site observations.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
APM Biology-13. PG&E will obtain coverage under the Construction Storm Water Permit Program and implement BMPs for erosion and sediment control.	Verify issuance of Construction Storm Water Permit and implementation of associated BMPs through documentation and on-site observations.	Prior to and during construction
APM Biology-14. A Stormwater Pollution Prevention Plan (SWPPP) will be developed that describes sediment and hazardous materials control, fueling and equipment management practices, and other factors deemed necessary for the project. Erosion control measures will be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, and waters of the state, as well as aquatic habitat occupied by sensitive species. Erosion control measures will be monitored on a regularly scheduled basis, particularly during times of heavy rainfall. Corrective measures will be implemented in the event erosion control strategies are inadequate. Sediment/erosion control measures will be continued in the project area until such time that soil stabilization is deemed adequate. Brush or other similar debris material will not be placed within any stream channel or on its banks. No project work activity is planned within the limits of any stream channel.	Verify completion and implementation of SWPPP through documentation and on-site observations.	Prior to and during construction
APM Biology-15. PG&E has and will implement its system-wide program which includes established procedures for handling and managing hazardous substances and emergency response in the event of a hazardous substance spill. These procedures will add to the requirements in the project SWPPP.	Verify incorporation of program into SWPPP through documentation.	Prior to construction
APM Biology-16. PG&E will prepare a Fire Prevention and Response Plan that will include reducing the potential for igniting combustible materials. The procedures will cover electrical hazards, flammable materials, smoking, vehicle and equipment access, and fire watches during construction and maintenance procedures during subsequent operation. Project personnel will be directed to park away from dry vegetation; not to smoke; and to equip vehicles with appropriate firefighting equipment; such as water dispensers and shovels, in times of high fire hazard.	Verify content and implementation of Fire Prevention and Response Plan through documentation and on-site observations.	Prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
Mitigation Measure Biology-17 (proposed to supersede APMs Biology-17 and Biology-18). The applicant shall comply with the following surveys and procedures: 1. All special-status plant species will be clearly flagged prior to construction and impacts to special-status plants shall be avoided if possible. 2. Focused botanical surveys shall be conducted in July and September in work areas, along access roads, in temporary work areas, or within the right-of-way to determine if additional special-status plant species that have the potential to occur are present within the work areas. Any special-status plant species that are observed shall be enumerated and mapped. If surveys are not possible in all work areas during the months of July and September because of the construction schedule, information from past surveys will be used to delineate special-status plant populations. 3. Prior to construction, special-status plant species within the work areas that have the potential to be impacted shall be enumerated, photographed, and conspicuously flagged to maximize avoidance, as well as to determine the total number of individuals affected. Entire areas may be flagged to maximize avoidance. Timing of field surveys and flagging shall correspond with the blooming period when the species is most conspicuous and easily recognizable. If timing of field surveys and flagging must occur outside of the appropriate blooming period, the map and global positioning system locations collected during focused botanical surveys can be used to flag locations for avoidance. 4. Work areas within occupied habitat shall be limited to existing access roads and to the minimal area practical. Staging areas, spoils storage, and equipment/vehicle parking shall occur in	Verify USFWS approval of biologist and completion of survey through documentation. Verify compliance with biological procedures through on-site observations.	Prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
designated areas outside of occupied habitat. 5. If possible for annual special-status plant species, timing of work activities within occupied habitat shall occur prior to the fall rains and after seeds have set to minimize project impacts on the seed bank. 6. Seeds from special-status plant species with mature seed that are likely to be impacted shall be collected and properly stored for post-construction propagation and re-establishment. Individuals that are likely to be impacted shall be translocated by digging up plants and replanting in suitable habitat under the supervision of the project biologist and with authorization from USFWS and/or CDFG. 7. If grading occurs in occupied habitat of special-status plant species, then the first 6 inches of topsoil shall be stored separately on site and protected from exotic weed seed dispersal. The purpose of the topsoil collection is to salvage any viable seeds in the seed bank by returning this soil horizon to its appropriate place in the profile. 8. In the event that any special-status plants cannot be avoided, PG&E shall consult with the USFWS and/or the CDFG (depending on whether the species is on the federal and/or state list of sensitive species) to determine appropriate measures to minimize effects to the species and its habitat during construction of the project, as well as during operation and maintenance. The CPUC shall be informed of the results of any agency consultations. A mitigation and monitoring plan may be required that details impacts to special-status plant species and outlines remedial actions to mitigate impacts. Monitoring may be required for subsequent years to monitor mitigation activities		

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
and plant recovery. In addition to these avoidance measures, the following plant-specific measures shall be implemented: **Pajaro Manzanita and Pajaro Manzanita Chaparral** a. Removal of entire Pajaro manzanita plants from the ground shall be avoided and stumps and roots shall be retained. The applicant shall avoid damage to shrub branches where possible. The applicant shall hand-prune manzanita plants where clearance is necessary and leave stumps in place. Pruning shall not come within 6 inches of the ground surface to avoid disturbing the seed bank and to leave the stump in place. The applicant shall remove and discard all damaged branches to non-maritime chaparral sites to avoid manzanita dieback. b. If possible, pruning of manzanita shall occur after the plants have dispersed seed for the year (late summer/early fall), and before flowering begins (typically in December). Any branches with mature seed that are likely to be impacted shall be salvaged and the seed stored until work is complete. When the timing is appropriate after the start of the rainy season, collected seed shall be sown in appropriate locations on the project site as determined by the project biologist. c. A Revegetation and Monitoring Plan shall be prepared for the areas of temporary disturbance where Pajaro manzanita occurs and for other disturbed areas of the project site. This plan shall be implemented during construction and for 3 years thereafter. Disturbed areas, other than existing access roads, shall be stabilized and revegetated with appropriate		

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
(conducive with PG&E line clearance requirements) native species or as approved by the landowner. The Revegetation and Monitoring Plan shall include the planting of salvaged Pajaro manzanita seed if Pajaro manzanitas were impacted. If applicable, the site shall be monitored following construction to prevent establishment of weeds and to ensure the successful reestablishment of native species. **Monterey Spineflower** a. If impacts occur to the Monterey spineflower, the applicant shall monitor the response of plants in impacted areas in subsequent growing seasons following project construction. If necessary, the applicant shall also augment the Monterey spineflower population through supplemental seeding from garden-grown seed.		
APM Biology-19. Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.	Verify equipment storage locations through on-site observations.	During construction
APM Biology-20. Best Management Practices such as silt fencing, hay bales, or fiber rolls, will be placed near the intermittent drainages and seasonal wetlands to prevent sedimentation runoff from flowing into Gabilan Creek.	Verify use of sedimentation barriers adjacent to intermittent drainages and seasonal wetlands through on-site observations.	Prior to and during construction
Mitigation Measure Biology-21 (proposed to supersede APM Biology-21). Pre-construction surveys for CRLF and CTS shall be conducted by a USFWS/CDFG-approved biologist no more than five days prior to the initiation of any ground disturbing activities within 600 feet of suitable aquatic or upland habitat. Visual	Verify completion of surveys through documentation. Verify compliance with biological procedures through	No more than 2 weeks prior to construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
encounter surveys shall be conducted within areas subject to ground disturbing activities. All suitable aquatic and upland habitat including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, *etc*., shall be thoroughly inspected. If a CRLF or CTS is observed prior to or during construction, work within 250 feet of the animal sighting shall halt (once safe to do so) and shall not proceed until the USFWS/CDFG are contacted to determine what actions shall be taken, unless such actions have been approved by USFWS/CDFG in advance of project construction. If no CRLF or CTS are observed during the pre-construction surveys, construction shall commence as scheduled.	on-site observations.	
Mitigation Measure Biology-22 (proposed to supersede APM Biology-22). Ground-disturbing construction activities within 600 feet of suitable CRLF and CTS habitat shall not occur during the wet season when CRLF and CTS are most active, *i.e.*, moving to and from breeding sites and foraging further upland from aquatic features. Construction shall be limited to the time period from May 1 to October 15 or as approved by CDFG and USFWS.	Verify timing and approval of construction activities within 600 feet of suitable aquatic habitat for CRLF and CTS through documentation and on-site observations.	During construction between May 1 and October 31
Mitigation Measure Biology-23 (proposed to supersede APM Biology-23). Prior to the commencement of construction activities, flagging, signage, and/or high visibility fencing shall be erected around the CRLF, CTS, and coast range newt aquatic habitat to identify and protect it from the encroachment of personnel and equipment. These areas shall be avoided by all construction personnel. The fencing shall be inspected before the start of each workday and maintained until completion of the activity. Once the project site is prepared and work is only occurring in the switching station shall the fencing be removed. Only tightly woven netting or similar material shall be used for all geo-synthetic erosion control materials such as coir rolls and geo-textiles. No plastic monofilament matting shall be used for erosion control measures.	Verify presence of flagging, signage, and/or fencing around CTS and CRLF aquatic habitat through on-site observations.	Prior to construction
APM Biology-24. Construction activities within 600 feet of suitable aquatic habitat shall not begin prior to 30 minutes after sunrise and will cease no later than 30 minutes before sunset.	Verify timing of construction activities through on-site observations.	During construction within 300 feet of suitable aquatic habitat

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
APM Biology-25. Plywood sheets will be used to temporarily cover potentially active burrows in work areas within 600 feet of suitable aquatic habitat. Burrows will be covered after re-location has taken place, if necessary, or otherwise specified in the Biological Opinion or Incidental Take Permit.	Verify appropriate method to cover burrows through on-site observations.	During construction
Mitigation Measure Biology-26 (proposed to supersede APM Biology-26). Prior to the start of construction, PG&E shall obtain an Incidental Take Permit from CDFG for CTS.	Verify results of consultations through documentation.	Prior to construction
Mitigation Measure Biology-27 (proposed to supersede APM Biology-27). Pre-construction bird nesting surveys in the project area shall be conducted no more than 30 days before work is performed between February 1 and August 15. To the extent possible, working in the vicinity of active nests shall be avoided; however, if avoidance is not practicable, a buffer zone of 250 feet shall be maintained around the active nest to prevent nest abandonment or disturbance. In the event that work shall take place within 250 feet (500 feet for raptors) of an active nest, a biological monitor shall monitor the activity of the nesting birds during work to determine if construction activities are resulting in significant disturbance to the birds. If the biologist determines that work is disrupting nesting activities, then work in that area shall be halted until nesting is completed and the young have fledged.	Verify completion of surveys and implementation of measures through documentation and on-site observations.	Prior to construction between February 1 and August 15
Mitigation Measure Biology-28 (proposed to supersede APMs Biology-25 and Biology-28). No more than 30 days prior to the start of construction, preconstruction surveys for burrowing owls will be conducted in accordance with agency survey protocols to identify any burrowing owl or secondary sign of burrowing owls should any burrowing owls move onto the project area prior to construction. If ground-disturbing activities in suitable habitat are delayed or suspended for more than 30 days after the pre-construction surveys, the site will be resurveyed. If no burrowing owls are detected, no further mitigation is necessary. If active burrows are found near a work area, work in the vicinity of the burrows will be limited as follows: 1. No disturbance will occur within approximately 160 feet (50	Verify completion of surveys and implementation of measures through documentation and on-site observations.	No more than 30 days prior to construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
meters) of occupied burrows during the non-breeding season of September 1 through January 31, or within approximately 250 feet (75 meters) during the breeding season of February 1 through August 31. Based on the site conditions and sensitivity of individual owl(s), the non-disturbance buffer may be extended if requested by CDFG. 2. The limits of the exclusion zone in the project work area will be clearly marked with signs, flagging and/or fencing. 3. If work within these limits is unavoidable while burrows are active, work will only take place within the presence of a qualified monitor who would monitor to determine if the owls show signs of disturbance or, upon prior approval from CDFG a passive relocation effort (displacing the owls from the work area) may be conducted as described below, and subject to the approval of the CDFG. Through communication with the Resident Engineer or their designee, the biologist will have the authority to stop work if deemed necessary for any reason to avoid impacts to burrowing owls and will advise the Resident Engineer or designee on how to proceed accordingly. 4. Passive relocation of owls may occur during the non-breeding season (September 1 through January 31) only with approval from CDFG. Passive relocation would include installing one-way doors on the entrances of burrows. The design of one-way doors should be determined in cooperation with CDFG. The one-way doors would be left in place for one week and monitored a minimum of twice daily for signs of birds that are unable to exit the burrow to ensure the owls have vacated the nest site. Owls would not be relocated during the breeding season, *i.e.* from February 1 to August 31. If burrowing owls are passively		

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
relocated, CDFG will be contacted to determine if compensation for loss of burrowing owl breeding burrows and surrounding habitat is necessary.		
Mitigation Measure Biology-29 (proposed to supersede APM Biology-29).-Pre-construction surveys, *i.e.* visual encounter surveys using binoculars, shall be conducted for all areas that provide suitable bat roosting habitat, including man-made structures, snags, rotten stumps, mature trees with broken limbs, trees with exfoliating bark, bole cavities or hollows, dense foliage, *etc.* Sensitive habitat areas and roost sites shall be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary. If suitable roosting habitat is identified, the following measures shall be conducted: 1. A qualified biologist shall survey suitable roost sites immediately prior to the removal or grading of rock outcroppings, debris piles, man-made structures, *etc.* 2. Removal of suitable tree roost sites shall be conducted by first removing limbs smaller than 3 inches in diameter and peeling away loose bark. The tree shall then be left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period. 3. A qualified biologist shall survey the trees/snags a second time the following morning prior to felling and removal. 4. Trees shall be removed outside of the breeding season, *i.e.* from September 1 to March 1, to avoid disturbance to maternal colonies.	Verify completion of surveys and implementation of measures through documentation and on-site observations.	Prior to construction, prior to spring breeding season for bats
Mitigation Measure Biology-30 (proposed to supersede APM Biology-30). If following the implementation of the agency-approved Avian Protection Plan and	Verify implementation of Avian	After a bird electrocution event

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
implementation of PG&E's most current version of Bird and Wildlife Protection Standards, a bird electrocution still occurs at the project site, PG&E will implement the following corrective actions as outlined in the Avian Protection Plan Implementation document: 1. PG&E will notify the USFWS and CDFG of a bird strike for any special-status species and any raptor species within 3 working days of the discovery. 2. If a raptor or a special status species bird is electrocuted on distribution (pole or mid-span), transmission, or substation facilities, the first line supervisor or designee (incident investigator) shall visit the incident site as soon as possible following the incident. The incident investigator shall be qualified, because of knowledge, training, and work experience, to evaluate and assess bird-related incidents, poles, or other structures. 3. The incident investigator will recommend retrofits with avian-safe devices if the incident involved a raptor and schedule any retrofit work to be completed as soon as practical, based on material availability, facility accessibility, clearances, etc. 4. If avian program management personnel determine that certain poles or structures present a particularly high risk to raptors, they may require that work to make the poles or structures avian-safe be completed within 30 days or less. The criteria for making this determination may include, but is not limited to, the following circumstances: a. Electrocuted eagle, threatened, or endangered species b. Multiple raptor electrocutions at the same location c. Multiple electrocutions in close proximity and within a	Protection Plan through documentation and on-site observations.	

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
recent time frame d. Agency requests		
Mitigation Measure Biology-31 (proposed to supersede APM Biology-31). A qualified biologist will survey the project area for badger dens prior to construction. If a badger den is found, the biologist will monitor the den to determine if it is actively being used by a badger. The biologist will determine this based on visual observation of the burrow or using camera traps to document its presence. Since badgers frequently changes dens, the biologist will monitor active dens to determine when the badger(s) is no longer using the den. If it is determined to be an active breeding den, a 250 foot exclusion buffer will be established and CDFG will be contacted to determine how to proceed. If no badger dens are found or if potential dens are determined not to be active, no further mitigation is necessary.	Verify implementation of measures through documentation.	Prior to construction
Mitigation Measure Biology-32 (proposed to supersede APM Biology-32). PG&E shall clean equipment and vehicles prior to arriving on site. Equipment shall be inspected and cleaned as needed prior to use in areas with rare plants. All plant material (e.g., straw, mulch, and seeds) used for erosion control and/or road maintenance shall be weed-free. If weed-free straw or mulch is not available, rice straw and mulch shall be used. The project biologist shall ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed. Seed mixes shall be approved by a biologist prior to application. Where possible, local or on-site seed sources shall be used.	Verify cleaning of equipment prior to arriving on site through on-site observations.	Prior to and during construction
Mitigation Measure Biology-33. A USFWS/CDFG-approved biologist shall be present onsite to monitor for CRLF and CTS. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to protect listed species and shall advise the Resident Engineer or designee on how to proceed accordingly. The biologist shall be present during all	Verify through on-site observations.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
construction activities where take of a listed species could occur. The biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or immediately adjacent to suitable CRLF and CTS habitat.		
Mitigation Measure Biology-34. Preconstruction surveys shall be conducted by a qualified biologist immediately prior to the initiation of any ground disturbing activities within or immediately adjacent to suitable southwestern pond turtle, black legless lizard, and coast range newt habitat. Visual encounter surveys shall be conducted within or immediately adjacent to areas subject to ground disturbing activities. All suitable aquatic and upland habitat for turtles and/or coast range newts, and friable soils within northern mixed chaparral/central maritime chaparral and oak woodland habitat for black legless lizards shall be thoroughly inspected. If a southwestern pond turtle, coast range newt, or black legless lizard is observed, work within 250 feet of the animal shall halt (once safe to do so) and shall not proceed until the CDFG is contacted to determine what protective actions shall need to be taken unless protective actions have been approved by CDFG in advance of project construction. If no southwestern pond turtles and black legless lizards are observed during the preconstruction surveys, construction shall commence as scheduled.	Verify preparation of pre-construction surveys and implementation of measures through on-site observations.	Prior to and during construction
Mitigation Measure Biology-35. A qualified biologist shall be present onsite to monitor for southwestern pond turtles, black legless lizards, and coast range newt. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to protect these species and shall advise the Resident Engineer or designee on how to proceed accordingly. The biologist shall be present during all construction activities that may impact these species. The biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or immediately adjacent to suitable southwestern pond turtle, black legless lizard, and coast range newt habitat.	Verify through on-site observations.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
Mitigation Measure Biology-36. No more than 30 day prior to the start of construction, for construction activities scheduled to begin during the breeding season from February 1 to August 31, a USFWS-approved biologist will conduct nest and point count surveys within one mile of the project footprint for golden eagles and white-tailed kites, unless otherwise directed by CDFG and/or USFWS. If surveys take place prior to February 15, then surveys will be repeated to detect any nesting activity. Unless otherwise approved by USFWS and/or CDFG, if active nests are found, they shall be monitored and, if it is determined that construction activities are causing nest disturbance, a no-disturbance buffer of 1,000 feet around eagle nests and/or 500 feet around white-tailed kite nests shall be observed until the young have fledged or as otherwise directed.	Verify preparation of pre-construction nest surveys, and implementation of measures through on-site observations.	Prior to and during construction
Mitigation Measure Biology-37. Monitoring guidelines will be provided in an Avian Protection Plan to be submitted to the USFWS and CDFG for review and approval prior to construction. Documentation of Plan approval will be submitted to the CPUC for recordkeeping.	Verify preparation of Avian Protection Plan through documentation.	Prior to construction
Mitigation Measure Biology-38. To reduce the risk of bird electrocution and bird strikes, installation of the new distribution line and the reconfigured power lines will conform to PG&E's most current version of Bird and Wildlife Protection Standards, and may include the use of bird guards.	Verify through on-site observations.	Prior to and during construction
Mitigation Measure Biology-39. To minimize disturbance due to helicopter operations, PG&E will avoid helicopter flights near known active nesting bird sites as determined in consultation with the USFWS and/or CDFG.	Verify through on-site observations.	During construction
Mitigation Measure Biology-40. Oak tree removal shall be avoided to the maximum extent possible. In agreement with the Monterey County Preservation of Oak and Other Protected Trees Ordinance, oak trees will be replaced at a one-to-one ratio or as determined in consultation with Monterey County. Prior to construction, oak trees greater than 6 inches in diameter at two feet above ground level that need to be	Verify preparation of detailed landscaping plans, and implementation through on-site observations.	Prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
removed within the work areas shall be enumerated to determine the total number of individuals affected. A description of the species, diameter at two feet above ground level, estimated height, and general health of the trees to be removed shall be recorded. Oak trees will be replaced or transplanted at a one-to-one ratio as shown in the Conceptual Landscaping Plan (Figure 3.1-4). As detailed in mitigation measure Aesthetics-10, PG&E shall submit to Monterey County, and work closely with the County on, a full set of plans and specifications based on the Conceptual Landscape Plan presented on Figure 3.1-4 prior to construction.		
Cultural Resources		
Mitigation Measure Cultural-1. PG&E shall design and implement a Worker Environmental Awareness Program that shall be provided to all project personnel who may encounter and/or alter unique archaeological properties, historical resources, or paleontological resources, including construction supervisors and field personnel. No construction worker shall be involved in field operations without having participated in the Worker Environmental Awareness Program. The Worker Environmental Awareness Program shall include, at a minimum: 1. A review of archaeology, history, prehistory, and Native American cultures associated with historical resources in the project vicinity. 2. A review of photographs and figures of potential historical resources, unique archaeological properties, and paleontological resources in the project area. 3. A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to historical preservation. 4. A discussion of procedures to be followed in the event that unanticipated paleontological or cultural resources are discovered during implementation of the project.	Verify content of training materials and submittal of training attendance sheets through documentation.	Prior to construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
5. A discussion of disciplinary and other actions that could be taken against persons violating historical preservation laws and PG&E policies. 6. A statement by the construction company or applicable employer agreeing to abide by the Worker Environmental Awareness Program, PG&E policies, and other applicable laws and regulations. The Worker Environmental Awareness Program may be conducted in concert with other environmental or safety awareness and education programs for the project. Worker Environmental Awareness Program training materials and/or presentations shall be submitted to the CPUC for review and recordkeeping requirements prior to the start of training sessions and prior to the start of construction.		
Mitigation Measure Cultural-2 (proposed to supersede APM Cultural-2). In the unlikely event that previously unidentified cultural or paleontological resources are uncovered during implementation of the project, all work within 165 feet (50 meters) of the discovery shall be halted and redirected to another location. PG&E's cultural resources specialist, paleontological resources specialist, or his/her designated representative shall inspect the discovery and determine whether further investigation is required. If the cultural discovery can be avoided and no further impacts would occur, then the cultural resource shall be documented on California Department of Parks and Recreation cultural resource record forms and no further effort shall be required. If the cultural resource cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance and CRHR eligibility of the resource and implement data recovery excavation or other appropriate treatment measures if warranted. Similarly, if the paleontological resource is significant, but can be avoided and no further impacts shall occur, then the paleontological resource shall be documented in the appropriate paleontological resource records and no further	Verify halt of construction activities and appropriate notification of agencies through documentation and on-site observations.	During the discovery of previously unidentified cultural or paleontological resources

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
effort shall be required. If the paleontological resource is significant, but cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance of the paleontological resource and implement data recovery excavation or other appropriate treatment measures as recommended by a qualified paleontologist.		
APM Cultural-3. In the event human remains are encountered during the project, work within 50 feet of the find will be halted and the County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage Commission, who will then designate a Most Likely Descendent. The Most Likely Descendent will consult with PG&E's archaeologist to determine further treatment of the remains.	Verify halt of construction activities and appropriate notification of agencies through documentation and on-site observations.	During the discovery of human remains
Geology and Soils		
APM Geology-1. Surface disturbance will be minimized to the extent consistent with safe and efficient completion of the project scope of work.	Verify minimization of ground disturbance through on-site observations.	During construction
APM Geology-2. Topsoil will be salvaged from areas where grading would otherwise result in loss of topsoil, and the salvaged soil will be used to reclaim areas of temporary construction disturbance. Once temporary surface disturbances are complete, areas that will not be subject to additional disturbance will be stabilized by landscaping.	Verify appropriate salvaging and use of topsoil through on-site observations.	During construction
APM Geology-3. Erosion control BMPs will be implemented where grading occurs.	Verify implementation of BMPs through on-site observations.	During construction
Mitigation Measure Geology-4. Construction slopes and existing natural slopes impacted by construction operations (e.g., cut and fill and road construction) shall be evaluated for stability. Construction slopes and grading plans shall be designed to limit the potential for slope instability and minimize the potential for erosion and	Verify evaluation of slope stability through documentation.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
flooding during construction. Construction activities likely to result in slope instability shall be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.		
Mitigation Measure Geology-5. Where soft or loose soils are encountered during construction, appropriate measures shall be implemented to avoid, accommodate, replace, or improve soft or loose soils. Such measures may include, but are not limited to, the following: 1. Locating construction equipment and structures away from areas of soft and loose soil, if possible 2. Over-excavating soft or loose soils and replacing them with engineered backfill 3. Increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction 4. Treating soft or loose soils in place with binding or cementing agents 5. If possible, scheduling construction activities in areas where soft or loose soils are encountered for the dry season to allow safe and reliable equipment access	Verify compliance with measures through on-site observations.	During construction
Mitigation Measure Geology-6. PG&E shall prepare an ECSTP as an element of the SWPPP describing BMPs to be used during construction. PG&E shall ensure all BMPs are inspected before and after each storm event, maintained on a regular basis, and replaced as necessary through the course of construction. The plan shall address construction in or near sensitive areas described in Section 3.5, Biological Resources. BMPs, where applicable, shall be designed based on specific criteria from recognized BMP design guidance manuals. Erosion-minimizing efforts may include, but not be limited to, measures such as:	Verify content and implementation of ECSTP through documentation and on-site observations.	30 days prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
1. Avoiding excessive disturbance of steep slopes 2. Defining ingress and egress within the project area 3. Implementing a dust control program during construction 4. Restricting access to sensitive areas (e.g., using silt fencing for the protection of wetland features) 5. Using vehicle mats in wet areas 6. Revegetating disturbed areas, where applicable, following construction 7. Proper containment of stockpiled soils (including construction of berms in areas near water bodies, wetlands, or drainage channels) Erosion control measures identified in the ECSTP shall be installed before clearing begins during the wet season and before the onset of winter rains or any anticipated storm events. Temporary measures such as silt fences or wattles, intended to minimize sediment transport from temporarily disturbed areas, shall remain in place until disturbed areas have stabilized. Such temporary measures shall be placed and monitored by a qualified inspector to ensure effectiveness and timely repair as needed. PG&E shall keep water equipment such as water trucks and water truck filling areas well maintained and shall make repairs as soon as possible; use water minimally for dust control and to clean construction areas; sweep and vacuum to the maximum extent possible; and direct runoff to areas where it can be reused or absorbed into the ground. Water for dust control shall be applied at a rate that would not lead to significant water runoff or potentially cause a nuisance. The ECSTP shall be submitted to the CPUC for review at least 30 days prior to the start of construction. The plan shall be revised and updated as needed, and resubmitted to the CPUC if construction activities change to the point that the		

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
existing approved ECSTP does not adequately address the project.		
Hazards and Hazardous Materials		
APM Hazards-1. PG&E will submit a Hazardous Substance Control and Emergency Response Plan to the CPUC for recordkeeping at least 30 days prior to project construction. The plan will identify methods and techniques to minimize the exposure of the public to potentially hazardous materials during all phases of project construction through operation. The plan will require implementing appropriate control methods and approved containment and spill-control practices (i.e., spill control plan) for construction and materials stored on-site. All hazardous materials and hazardous wastes will be handled, stored, and disposed of, in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. If it is necessary to store any chemicals on-site, they will be managed in accordance with all applicable regulations. Material Safety Data Sheets will be maintained and kept available on-site, as applicable.	Verify content and implementation of Hazardous Substance Control and Emergency Response Plan through documentation and on-site observations.	30 days prior to and during construction
APM Hazards-2. PG&E will prepare a site-specific Health and Safety Plan to ensure that potential safety hazards would be kept at a minimum. The plan will include elements that establish worker training and emergency response procedures relevant to project activities. The plan will be submitted to the CPUC at least 30 days prior to construction for CPUC recordkeeping.	Verify content and implementation of Health and Safety Plan through documentation and on-site observations.	30 days prior to and during construction
APM Hazards-3. PG&E will prepare and submit a Fire Prevention and Response Plan to the CPUC and to local fire protection authorities for notification at least 30 days prior to construction. The plan will include fire protection and prevention methods for all components of the project during construction. The plan will include procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, use of flammable materials, and smoking onsite during construction and maintenance procedures. Project personnel will be directed to park away from dry vegetation; to equip vehicles with fire extinguishing equipment; not to	Verify content and implementation of Fire Prevention and Response Plan through documentation and on-site observations.	30 days prior to and during construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
smoke; and to carry water, shovels, and fire extinguishers in times of high fire hazard.		
APM Hazards-4. An environmental training program will be established to communicate to all field personnel any environmental concerns and appropriate work practices, including spill prevention and response measures and BMPs. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific plans, including but not limited to the project's Hazardous Substances Control and Emergency Response Plan, SWPPP, Erosion Control and Sediment Transport Plan, and Health and Safety Plan.	Verify content of training materials and submittal of training attendance sheets through documentation and on-site observations.	30 days prior to and during construction
APM Hazards-5. A monitoring program will be implemented to ensure that the plans are followed throughout the construction period. BMPs, as identified in the project's SWPPP and Erosion Control and Sediment Transport Plan, will be implemented during the project to minimize the risk of an accidental release and to provide the necessary information for emergency response.	Verify content and implementation of plans through documentation and on-site observations.	Prior to and during construction
Hydrology and Water Quality		
APM Hydrology-1. Worker environmental awareness will communicate environmental issues and appropriate work practices specific to this project. This awareness will include spill prevention and response measures and proper BMP implementation. The SWPPP training will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest waterbodies) and will include a review of all site-specific water quality requirements, including applicable portions of the Health and Safety Plan and PG&E's Hazardous Substances Control and Emergency Response program.	Verify content of training materials and submittal of training attendance sheets through documentation.	Prior to construction
APM Hydrology-2. PG&E will file a Notice of Intent with the State Water Resources Control Board for coverage under the General Construction Storm Water Permit and will prepare and implement a SWPPP in accordance with General Order No. 99-08-DWQ. Implementation of the SWPPP will help stabilize graded areas and waterways	Verify submittal of Notice of Intent through documentation. Verify incorporation of measures into SWPPP through	Prior to construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
and reduce erosion and sedimentation. The following measures are generally drawn from that permit and PG&E's standard practices, and will be included in the SWPPP prepared for the construction of the project: 1. All BMPs will be on-site and ready for installation before the start of construction activities. 2. BMPs will be developed to prevent the acceleration of natural erosion and sedimentation rates. A monitoring program will be established to ensure that the prescribed APMs are followed throughout project construction. BMPs will include: a. straw wattles, water bars, covers, silt fences, sensitive area access restrictions (e.g., flagging), or other sediment containment methods placed around and/or down slope of work areas prior to earth disturbing activities and before the onset of winter rains or any anticipated storm events; b. mulching, seeding, or other suitable measures to protect exposed areas during construction activities as necessary; c. installation of additional silt fencing prior to construction along the southern and western edges of the proposed switching station site to address unforeseen runoff from the property into the nearby intermittent drainages, seasonal wetlands, and Gabilan Creek; d. use of brooms and shovels (as opposed to water) when possible to maintain a clean site; e. construction of a stabilized construction entrance/exit to prevent tracking of dirt onto San Juan Grade Road; f. establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil,	documentation.	

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan

Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Time of Action
gas, and engine fluids. Use of oil pans under stationary vehicles is strongly recommended; and g. no overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands, culverts, or creeks will be positioned within secondary containment. 3. All BMPs will be inspected before and after each storm event. BMPs will be maintained on a regular basis, and replaced as necessary throughout the course of construction. 4. A Qualified SWPPP Practitioner will supervise placement of silt fencing at the proposed switching station site to limit the area of disturbance during construction at the site. The silt fence will be monitored regularly to ensure effectiveness. PG&E will provide compensatory mitigation for permanent impacts to waters of the state and waters of the U.S. as required by the USACE, RWQCB, and CDFG as part of the permitting process for each agency.		
Noise		
APM Noise-1. "Quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) will be used during construction whenever possible.	Verify use of "quiet" equipment through on-site observations.	During construction
APM Noise-2. PG&E will limit construction to the hours between 7 a.m. and 7 p.m., Monday through Saturday, to the extent feasible. If nighttime work is needed because of clearance restrictions on the power line, PG&E will take appropriate measures to minimize disturbance to local residents, including contacting nearby residences to	Verify timing of construction activities through on-site observations.	During construction

Table 4.1-1 *(Continued)*: Mitigation Monitoring Plan		
Applicant Proposed Measure (APM) or Mitigation Measure	**Monitoring Requirement**	**Time of Action**
inform them of the work schedule and probable inconveniences.		
APM Noise-3. PG&E will encourage construction crews to limit unnecessary engine idling (see Air Quality measures).	Verify no excessive idling through on-site observations.	During construction
APM Noise-4. Compressors and other small stationary equipment will be shielded with portable barriers in proximity to residential areas.	Verify use of portable barriers for stationary equipment through on-site observations.	During construction

5: References

AESTHETICS

Caltrans (California Department of Transportation). 2007. Online: http://www.dot.ca.gov/hq/LandArch/scenic_highways/. Site visited August 8, 2008.

CPUC (California Public Utilities Commission). 1995. *Public Utilities Commission of the State of California, General Order No. 131-D.* Adopted August 11, 1995, Decision 95-08-038.

Monterey County. 1985a. *North County Area Plan: A Part of the Monterey County General Plan*. Adopted July 2, 1985. Online: http://www.co.monterey.ca.us/planning/docs/plans/landuse.htm. Site visited August 2, 2010.

_____. 1985b. *Greater Salinas Area Plan: A Part of the Monterey County General Plan*. Approved January 9, 1985. Online: http://www.co.monterey.ca.us/planning/docs/plans/GSAP.complete. Site visited August 2, 2010.

_____. 2007. *Monterey County General Plan and General Plan Update*. 2007. Online: http://www.co.monterey.ca.us/gpu/gallery/landuse.html. Site visited August 3, 2010.

NPS (National Park Service). 2008a. *Juan Bautista de Anza National Historic Trail Guide.* Online: http://www.solideas.com/DeAnza/TrailGuide/Monterey/index.html. Site visited August 8, 2008.

_____. 2008b. *National Trails System Act.* L. 90-543, as amended through P.L. 110-229, May 8, 2008. Online: http://nps.gov/nts/legislation.html. Accessed July 8, 2010.

USDA ((U.S. Department of Agriculture), Forest Service). 1998. *Landscape Aesthetics. A Handbook for Scenery Management.* Washington D.C.

USDOT (U.S. Department of Transportation), Federal Highway Administration (FHWA). 1988. *Visual Impact Assessment for Highway Projects.* Washington, D.C.: Publication No: FHWA-HI-88-054.

USGS (U.S. Geological Survey). 1999. Terraserver Maps. Online: http://terraserver-usa.com/. Site visited July 8, 2010.

AGRICULTURAL RESOURCES

CDC (California Department of Conservation). 2009. Monterey County Important Farmland Data Availability. Farmland Conversion Reports. Online: http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp. Site visited July 19, 2010.

_____. 2008. Farmland Mapping and Monitoring Program. Monterey County Map 2008. Online: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf. Site visited July 19, 2010.

Monterey County. 1985a. *North County Area Plan: A Part of the Monterey County General Plan*. Online: http://www.co.monterey.ca.us/planning/docs/plans/NCAP_complete.PDF. Site visited July 20, 2010.

AIR QUALITY

EPA (U.S. Environmental Protection Agency). 1985. AP-42, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources.

_____. 1985. AP-42, Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources.

_____. 1989. AP-42, Volume II, Fourth Edition, Tables II-1-7 and II-1-8.

_____. 1996. Use of Locality-Specific Transportation Data for the Development of Mobile Source Emission Inventories.

_____. 1998. AP-42, Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources, Appendix H.

_____. 2006. AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Chapters 13.2.1 and 13.2.2.

MCUAPCD (Monterey County Unified Air Pollution Control District). 2008. The MBUAPCD CEQA Air Quality Guidelines.

_____. 2006-2008. Exceedances and Design Values for State Standards. Online: www.mbuapcd.org/programs/planning. Site visited August 27, 2010.

_____.2009. NCCAB Area Designations and Attainment Status. Online: http://www.mbuapcd.org/mbuapcd/pdf/Attainment_Status_January_2009.pdf. Site visited August 27, 2010.

_____.2010. Ambient Air Quality Standards. Online: http://www.mbuapcd.org/mbuapcd/pdf/Ambient_Air_Quality_Standards_2-16-2010.pdf. Site visited August 27, 2010.

SCAQMD (South Coast Air Quality Management District). 2009. EMFAC2007 Version 2.3 Emission Factors (on-road).

URBEMIS Version 9.2.4. 2009. Appendix G – Construction Equipment Emissions Factors. Environmental Management Software, Rimpo and Associates.

GREENHOUSE GASES

CARB (California Air Resources Board). 2008. Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act, Preliminary Draft Staff Proposal. October 24, 2008.

_____. 2010. Climate Change Program. Online: http://www.arb.ca.gov/cc/cc.htm. Site visited August 27, 2010.

County of Monterey Resource Management Agency Planning Department. 2008. 2007 General Plan Draft EIR.

BIOLOGICAL RESOURCES

Biosearch Associates. 2009. *Aquatic Sampling Report for Special-Status Amphibians at the Crazy Horse Canyon Switch Yard Project Site, Monterey County, CA*. Santa Cruz, California.

_____. 2010. *California Tiger Salamander Upland Study, Crazy Horse Canyon Switching Station Project, Monterey County, CA.* Santa Cruz, California.

California Burrowing Owl Consortium. 1993. *Burrowing owl survey protocol and mitigation guidelines*. Santa Cruz, California.

CDFG (California Department of Fish and Game). 1985. *California's Wildlife. Volume I: Amphibians and Reptiles*. California Statewide Wildlife Habitat Relationships System.

_____. 1990a. *California's Wildlife. Volume II: Birds*. California Statewide Wildlife Habitat Relationships System.

_____. 1990b. *California's Wildlife. Volume III: Mammals*. California Statewide Wildlife Habitat Relationships System.

_____. *2003. List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database. The Vegetation Classification and Mapping Program. Wildlife and Habitat Data Analysis Branch. September.*

_____. *2009. List of California Vegetation Alliances. The Vegetation Classification and Mapping Program. Wildlife and Habitat Data Analysis Branch. October.*

_____. 2010. *California Natural Diversity Database*. RAREFIND 3 Software.CNPS (California Native Plant Society). 2004. *Inventory of Rare and Endangered Vascular Plants of California*. Version 6.3 (01-16-04). Sacramento, California.

DOI (Department of Interior). 2004a. U.S. Fish and Wildlife Service. Federal Register 50 CFR Part 17 (Volume 69, Number 24850). Endangered and Threatened Wildlife and Plants; Proposed Critical Habitat Designation for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon, Proposed Rules. December 28, 2004.

_____. 2004b. National Oceanic and Atmospheric Administration. Federal Register CFR Parts 223 and 224 (Volume 69, Number 113). Endangered and Threatened Species: Proposed Listing Determinations for 27 ESUs of West Coast Salmonids, Proposed Rules. June 14, 2004.

Holland, R.H. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, Non-game Heritage Division. Sacramento, California.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento. 471 pp.

Shuford, W. David and Thomas Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

TRC (TRC Solutions, Inc.). 2010a. *Crazy Horse Canyon Switching Station Project, California Burrowing Owl Report*. Half Moon Bay, California. March 2010.

_____. 2010b. *Delineation of Waters of the U.S. for Pacific Gas and Electric's Crazy Horse Canyon Switching Station Project in Monterey County, California*. Half Moon Bay, California. April 2010.

_____. 2010c. *Crazy Horse Canyon Switching Station General Biological Reconnaissance and Wetland Survey Report*. Half Moon Bay, California. April 2010.

_____. 2010d. Crazy Horse Canyon Switching Station Project Proponent's Environmental Assessment. Prepared for Pacific Gas and Electric Company. April 2010.

_____. 2010e. *Rare Plant Survey Report for PG&E's Crazy Horse Canyon Switching Station Project, Monterey County, California*. Half Moon Bay, California. May 2010.

_____. 2010f. Personal Communication with Carley Sweet. August 2, 2010.

Williams, Daniel F. 2008. Mammalian Species of Special Concern in California. Department of Biological Sciences California State University, Stanislaus Turlock, California. Online: http://www.dfg.ca.gov/wildlife/species/publications/mammal_ssc.html#table4. Site visited July 22, 2008.

CULTURAL RESOURCES

Breschini, G. and T. Haversat. 1980. Preliminary Archaeological Report and Archaeological Management Recommendations for CA-MNT-170, on Pescadero Point, Monterey, California. Prepared by Archaeological Consulting, Salinas, California.

Bryne, S. 2002. Archaeological Monitoring of the Wilder Ranch Bike Path Construction and Mitigation Related to Archeological Site CA-SCR-38/123/H. Prepared by Garcia and Associates, San Anselmo, California.

City of Salinas. 2002. 2002 Salinas General Plan.

Garcia and Associates. 2010. Cultural Resource Investigation for the Crazy Horse Canyon Switching Station Project, Monterey County, California. Prepared for TRC Solutions, Inc. March 2010.

Goerke, B. 2006. Chief Marin: Leader, Rebel, and Legend – A History of Marin County's Namesake and His People. Heyday Books, Berkeley, California.

Jones, T., N. Stevens, D. Jones, R. Fitzgerald, and M. Hylkema. 2007. The Central Coast: "A Midlatitude Milieu." in The Prehistory of California, edited by Jones Klar, pp. 125-146, Altamira Press, Lanham, Maryland.

Milliken, R. 1995. Ethnographic Context. In Archaeological Investigations at Elkhorn Slough: CA-MNT-229, a Middle Period Site on the Central California Coast, edited by Dietz, Hilderbrandt, and Jones, pp. 57-94.

Monterey County Historical Society. 1989. Historical and Architectural Resources Survey and Preservation Plan City of Salinas. Monterey, California: Monterey County Historical Society. Prepared for the City of Salinas.

Shipley. 1978. Native Languages of California pp. 80-90, in Heizer (vol. ed.) and W.C. Sturtevant (gen. ed.), Handbook of North American Indians, Volume 8: California. Smithsonian Institution, Washington D.C.

TRC (TRC Solutions, Inc.). 2010. Crazy Horse Canyon Switching Station Project Proponent's Environmental Assessment. Prepared for Pacific Gas and Electric Company. April 2010.

GEOLOGY AND SOILS

2007 Working Group on California Earthquake Probabilities. 2008. The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2). USGS Open File Report 2007-1437, CGS Special Report 203, SCEC Contribution #1138.

Allen, J.E. 1946. Geology of the San Juan Bautista Quadrangle California. California Division of Mines and Geology, Bulletin 133.

Hart, E. W. and W. A. Bryant. 2007. Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps. Department of Conservation, California Geological Survey, Special Publication 42.

ICF Jones & Stokes. 2008. 2007 Monterey County General Plan, Draft Environmental Impact Report. Prepared for Monterey County Resource Management Agency Planning Department. September.

Kleinfelder. 2010. Engineering Geologic and Geotechnical Investigation, Proposed Crazy Horse II Switching Station, Monterey County, near Salinas, California. Report prepared for Pacific Gas and Electric Company, January 26.

USDA (U.S. Department of Agriculture, Natural Resources Conservation Service). 2010. Web Soil Survey, Soil Maps of Monterey County, California. Online: http://websoilsurvey.nrcs.usda.gov/app/. Site visited August 11, 2010.

USDA (U.S. Department of Agriculture, Soil Conservation Service). 1978. Soil Survey of Monterey County, California.

USGS. 1955. San Juan Bautista Quadrangle. 7.5-minute series, Scale 1:24,000, revised 1993.

HAZARDS AND HAZARDOUS MATERIALS

CALFIRE (California Department of Forestry and Fire Protection). 2010. Monterey County Fire Hazard Zone Maps. Online: http://frap.cdf.ca.gov/webdata/maps/monterey. Site visited July 19, 2010.

California Department of Toxic Substances Control. 2010. EnviroStor Database. Online: http://www.envirostor.dtsc.ca.gov/public. Site visited July 19, 2010.

Monterey County Health Department. 2010. Online: http://www.co.monterey.ca.us/health/EnvironmentalHealth/hazWaste.htm. Site visited July 19, 2010.

Monterey County Office of Emergency Services. 2010. Local Hazard Mitigation Plan. Online: http://www.co.monterey.ca.us/oes/LHMP.htm. Site visited July 20, 2010.

State Water Resources Control Board. 2010. GeoTracker Database. Online: http://geotracker.swrcb.ca.gov/map/?CMD=runreport&myaddress=san+luis+obispo%2C+c Site visited July 19, 2010.

TRC (TRC Solutions, Inc.). 2010. Crazy Horse Canyon Switching Station Project Proponent's Environmental Assessment. Prepared for Pacific Gas and Electric Company. April 2010.

HYDROLOGY AND WATER QUALITY

DWR (California Department of Water Resources). 2003. California's Groundwater Bulletin 118. Online: http://www.groundwater.water.ca.gov/bulletin118/update2003/index.cfm, Site visited August 2, 2010.

Kleinfelder. 2010. Engineering Geologic and Geotechnical Investigation, Proposed Crazy Horse II Switching Station, Monterey County, near Salinas, California. Report prepared for Pacific Gas and Electric Company, January 26.

Monterey County Water Resources Agency, 2002. County Floodplain Management Plan, updated December 2003. Online: http://www.mpwmd.dst.ca.us/Mbay_IRWM/FAAST_submittal/Att3_IG1_IRWMPlan_4of7.pdf. Site visited August 11, 2010.

RWQCB (Regional Water Quality Control Board, Central Coast Region). 2006. 303(d) List of Impaired Waters. Online: http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r3_06_303d_reqtmdls.pdf. Site visited August 11, 2010.

TRC (TRC Solutions, Inc.). 2010. Delineation of Waters of the United States and Rapanos Analysis, Crazy Horse Canyon Switching Station Site, Monterey County, California. April 2010.

URS Corporation. 2007. Multi-Jurisdictional Hazard Mitigation Plan, Monterey County, California, prepared on behalf of Monterey County Office of Emergency Services. September 2007.

USFWS (U.S. Fish and Wildlife Service). 2010. National Wetlands Inventory. Online: http://nwi.fws.gov. Site visited August 11, 2010.

USGS. 1955. San Juan Bautista Quadrangle. 7.5-minute series, Scale 1:24,000, revised 1993.

_____. 2010. USGS Water Resources. Online: http://waterdata.usgs.gov/usa/nwis/uv?site_no=11152600. Site visited August 11, 2010.

The Watershed Institute. 2005. The Agricultural Management Practices and Treatment Wetlands in the Gabilan Watershed: Monitoring Plan, Report No. WI-2005-11, November 15.

World Climate. 2010. http://www.worldclimate.com/cgi-bin/grid.pl?gr=N36W121. Site visited August 9, 2010.

LAND USE

CPUC. General Order No. 131-D, *Rules Relating to the Planning and Construction of Electric Generation, Transmission/Power/Distribution Line Facilities and Substations Located in California*. 1995.

Monterey County. 1985a. *North County Area Plan: A Part of the Monterey County General Plan*. Adopted July 2, 1985. Online: http://www.co.monterey.ca.us/planning/docs/plans/landuse.htm. Site visited August 2, 2010.

_____. 1985b. *Greater Salinas Area Plan: A Part of the Monterey County General Plan*. Approved January 9, 1985. Online: http://www.co.monterey.ca.us/planning/docs/plans/GSAP.complete. Site visited August 2, 2010.

_____. 2007. *Monterey County General Plan and General Plan Update*. 2007. Online: http://www.co.monterey.ca.us/gpu/gallery/landuse.html. Site visited August 3, 2010.

NOISE

Monterey County. 2007. *General Plan (2007)*. Safety Element. November 2007.

_____. 2010. Code of Ordinances. Title 10.60 – Health and Safety Noise Control. Online: http://library.municode.com/index.aspx?clientId=16111&stateId=5&stateName=California&customBanner=16111.jpg&imageclass=L&cl=16111.txt/. Last accessed August 30, 2010.

NCHRP (National Cooperative Highway Research Program). 1999. Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances. National Academy Press, Washington, DC.

NoiseNet.org. 2008. Calculating Levels. Online: http://www.noisenet.org/Noise_Terms_calcs.htm. Site visited August 20, 2010.

True, Rickley and Letty. 1977. Helicopter Noise Measurements – Data Report. Report No. FAA-RD-77-57, 2 Volumes.

USDOT, FHWA. 2006. Roadway Construction Noise Model – FHWA-HEP-05-054, DOT-UNTSC-FHWA-05-01.

POPULATION AND HOUSING

U.S. Census Bureau. 2010a. *State and County Quick Fact.* Online: http://quickfacts.census.gov/qfd/states/06/0664224.html. Site visited July 13, 2010.

_____. 2010b. *American Fact Finder.* Online: http://factfinder.census.gov/servlet/ACSSAFFFacts?_event=Search&geo_id=01000US&_geoContext=&_street=&_county=monterey+county&_cityTown=monterey+county&_state=04000US06&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=factsheet_1&ds_name=ACS_2008_3YR_SAFF&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=. Site visited July 13, 2010.

PUBLIC SERVICES

City of Salinas: *Fire Department.* 2010a. Online: http://www.ci.salinas.ca.us/services/fire/fire.cfm. Site visited July 7, 2010.

_____: *Police Department.* 2010b. Online: http://www.ci.salinas.ca.us/services/police/police.cfm. Site visited July 7, 2010.

Monterey County *Sheriff's Department*. 2010a. Online: http://www.co.monterey.ca.us/sheriff/patrol.htm. Site visited July 7, 2010.

_____: *School District*. 2010b. Online: http://www.monterey.k12.ca.us/drupal/sites/default/files/files/home/images/district-school/Schools%20and%20Districts.pdf. Site visited July 7, 2010.

_____: *Parks Department*. 2010c. Online: http://www.co.monterey.ca.us/parks. Site visited July 7, 2010.

North County Fire Department. 2010. Online: www.ncfpd.org. Site visited July 7, 2010.

RECREATION

Monterey County: *Parks Department*. 2010. Online: http://www.co.monterey.ca.us/parks. Site visited July 7, 2010.

_____. 2007. *General Plan (2007) and General Plan Update*. 2007. Online: http://www.co.monterey.ca.us/gpu/gallery/landuse.html. Site visited August 3, 2010.

_____. 1985. *Greater Salinas Area Plan*. Online: http://www.co.monterey.ca.us/planning/docs/plans/GSAP.complete. Site visited August 2, 2010.

TRAFFIC AND TRANSPORTATION

Alinio, Chad. 2010. Monterey County Public Works Department. Personal communication with George Nickelson. August 9, 2010.

Caltrans (California Department of Transportation). 2008a. Traffic Data Branch 2008. Online: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2008all/r101i.htm. Site visited August 11, 2010.

_____. 2008b. Highway Design Manual. July 1, 2008.

City of Salinas. 2010. The City of Salinas Traffic Improvement Program 2010 Update. Online: http://www.ci.salinas.ca.us/services/engineering/pdf/Salinas2010TFO_FINAL.pdf. Site visited August 19, 2010.

Martinez, Raul. 2010. Monterey County Public Works Department. Personal communication with George Nickelson. August 5, 2010.

Monterey County. 2009. Department of Public Works Traffic Engineering, *2009 Annual Average Daily Traffic*.

_____. 2008. 2008 Monterey County General Bikeways Plan. Online: http://www.co.monterey.ca.us/publicworks/pdfs/Cover%20Page%20Rev4.pdf. Site visited August 11, 2010.

Nickelson, George, P.E. 2010. Crazy Horse Canyon Switching Station Project Field Review. July 26, 2010.

Transportation Research Board. 2000. Highway Capacity Manual.

UTILITIES AND SERVICE SYSTEMS

California Integrated Waste Management Board. 2010. *Jurisdiction Landfill Overview.* Online: http://www.ciwmb.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=27&FACID=27-AA-0007. Site visited August 25, 2010.

California Water Service. 2010. Online: http://www.calwater.com/your_district/index.php?District=sln. Site visited July 8, 2010.

Monterey County. 2010. Online: http://www.co.monterey.ca.us/health/environmentalhealth/WaterProt/wellConstruction.htm. Site visited July 8, 2010.

MANDATORY FINDINGS OF SIGNIFICANCE

Monterey County. 2010a. Monterey County Planning Department Projects Under Review. Online: http://www.co.monterey.ca.us/planning/major/default.htm. Site visited August 24, 2010.

_____. 2010b. Monterey County Planning Department, Active Planning Project. Online: http://www.co.monterey.ca.us/planning/projects/planning/active/2010/Active_Planning_Projects_as_of_082310.pdf. Site visited August 24, 2010.

_____. 2008. *Revised Rancho San Juan*. Online: http://www.co.monterey.ca.us/planning/major/rsj3/rsj3_main.htm. Site visited August 25, 2010.

This page is intentionally left blank

6: Report Preparation

6.1 List of Preparers

This section lists the individuals who either prepared or participated in the preparation of this IS/MND.

LEAD AGENCY

Contributor	Position
Andrew Barnsdale	Project Manager, California Public Utilities Commission

CONSULTANT TEAM

This IS/MND was prepared by RMT, Inc., of San Mateo, California. The following staff contributed to this report:

RMT, Inc.

Contributor	Position
Laurie Hietter	Project Director
Jeffrey Smith	Project Manager
Bonny O'Connor	Deputy Project Manager
Karin Greenacre	Senior Environmental Scientist
Brian Harms	Engineer and Industrial Hygienist
Stefanie Smith	Environmental Scientist
Charina Gaspay	Environmental Scientist
Sarah Mearon	Project Geologist and Quality Control
Tania Treis	Senior Reviewer
Aaron Lui	GIS Cartographer
Corey Fong	GIS Cartographer
Roger Luc	Document Manager

Subcontractors

Contributor	Position
Judy McKeehan	Principal, McKeehan Environmental Consultants

Alvin Franks	Professional Geologist
Erin McDermott	Principal Biologist, Nomad Ecology
Patrick Miller	Principal, 2M Associates
George Nickelson	Principal, Omni-Means, Ltd.

6.2 Agencies and Persons Contacted

The following agencies and persons were contacted during the preparation of this document:

Contact	**Agency/Affiliation**
Linda Connolly, Environmental Scientist	California Department of Fish and Game, Central Region
Chad Alinio, P.E., Senior Civil Engineer	Monterey County Department of Public Works, Community Development Section
Raul Martinez, Assistant Engineer	Monterey County Department of Public Works, Community Development/Transportation Section
Douglass Cooper, Senior Biologist	U.S. Fish and Wildlife Service, North Coast Division

APPENDIX A:
April 13, 2010 Letter from County of Monterey Board of Supervisors

MONTEREY COUNTY

BOARD OF SUPERVISORS

April 13, 2010

Andrew Barnsdale
California Public Utilities Commission
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102

Subject: Crazy Horse/San Juan Grade Road Switching Yard and Reconductoring Project REF100001

Dear Mr. Barnsdale:

Our staff has met with PG&E staff regarding the siting of a new switching facility over the last several months. We also appreciated hearing about a reconductoring project that needs to occur in the area. These two projects are intended to improve system reliability in this area of Monterey County.

We appreciate PG&E's efforts to minimize the visibility of the site by looking at alternative locations. We are recommending a site east of the originally proposed location. This preferred site is located over the hill east of Crazy Horse Canyon Road, so as not to be visible from that road, which is heavily travelled. We encourage you to ensure that multi-height (trees and shrubs) landscaping is installed along San Juan Grade Road to break up the visibility of the site from the traveling public on this road, a lightly used road.

Sincerely,

Simón Salinas, Chair
Board of Supervisors

Attachment: Site Map

cc: Cristina Salguero Holstine, Land Planner
Pacific Gas and Electric
Mail Code N10A
PO Box 770000
San Francisco, CA 94177-0001

Wendy Sarsfield
Pacific Gas and Electric
356 E. Alisal Street
Salinas, CA 93901

APPENDIX B:
Crazy Horse Canyon Switching Station
Air Emissions Tables

Crazy Horse Canyon Switching Station
Summary of Construction Phase Emissions

Emissions	NO_x	ROG	Exhaust PM_{10}	Fugitive PM_{10}	CO	SO_2	$PM_{2.5}$	CO_2[1]	CO_2[1] with APM[3]	CH_4[2]
Peak Daily (lb/day)										
Site Grading - July 2011 - October 2011	32.4	4.4	1.2	19.0	10.5	0.04	1.1	3867	3287	0.039
Foundations - November 2011 - March 2012	39.1	7.8	2.2	21.0	21.0	0.13	1.9	4019	3416	0.032
Station Construction - June 2012 - September 2012	57.4	7.8	3.5	33.5	38.6	0.09	3.1	7333	6233	0.070
Line and Tower - June 2012 - December 2012	66.0	7.5	2.7	29.5	55.1	2.66	2.4	14494	12320	0.042
Post-construction - January 2013 - February 2013	10.6	1.6	1.9	7.5	5.2	0.02	1.7	1456	1238	0.010
Max Daily	**123.4**	**15.3**	**6.2**	**62.9**	**93.8**	**2.8**	**5.5**	**21827**	**18553**	**0.1**
Average Daily 2011	**34.62**	**5.55**	**1.55**	**19.71**	**14.00**	**0.07**	**1.37**	**3917**	**3330**	**0.04**
Average Daily 2012	**62.21**	**8.22**	**3.03**	**31.02**	**46.41**	**1.49**	**2.68**	**10988**	**9340**	**0.05**
Average Daily 2013	**10.56**	**1.55**	**1.88**	**7.53**	**5.25**	**0.02**	**1.67**	**1456**	**1238**	**0.01**
Tons per Phase										
Site Grading - July 2011 - October 2011	1.294	0.136	0.049	0.668	0.420	0.0018	0.043	140	119	0.0014
Foundations - November 2011 - March 2012	1.957	0.388	0.109	1.052	1.049	0.0067	0.097	182	155	0.0015
Station Construction - June 2012 - September 2012	2.296	0.313	0.140	1.339	1.546	0.0034	0.124	266	226	0.0026
Line and Tower - June 2012 - December 2012	2.331	0.280	0.121	1.256	1.422	0.0099	0.107	284	242	0.0017
Post-construction - January 2013 - February 2013	0.132	0.019	0.024	0.094	0.066	0.0002	0.021	17	14	0.0001
Total Tons , 2011	**2.077**	**0.292**	**0.093**	**1.089**	**0.840**	**0.004**	**0.082**	**213**	**181**	**0.002**
Total Tons , 2012	**5.801**	**0.826**	**0.327**	**3.226**	**3.597**	**0.017**	**0.289**	**660**	**561**	**0.005**
Total Tons, 2013	**0.132**	**0.019**	**0.024**	**0.094**	**0.066**	**0.000**	**0.021**	**17**	**14**	**0.000**
Total tons per Project	**8.010**	**1.137**	**0.443**	**4.409**	**4.503**	**0.022**	**0.392**	**890**	**756**	**0.007**

1. Metric tons
2. Methane emissions from truck use only (metric tons).
3. Implementation of APM was assumed to reduce construction equipment, construction vehicles, and worker commutes by approximately 15 percent.

Crazy Horse Canyon Switching Station
Emissions calcs for Construction equipment
Emissions factors, approximate HP ratings, and load defaults are from URBEMIS 2007, Ver 9.2.4.
Equipment lists and construction schedule supplied by PG&E, March 2010.
Page 1

Site Grading - July 2011 - October 2011

Equipment	Fuel	Number	Days Operating**	HP	Load	Hr/day	Emissions Factor, g/hp/hr ROG	NOx	PM	PM2.5***	CO	SO2	CO2
Water Truck	Diesel	3	80	250	0.5	10.5	0.302	2.876	0.100	0.089	0.798	0.004	324.222
D9 Dozer	Diesel	2	80	500	0.55	10.5	0.227	2.251	0.080	0.071	0.732	0.004	312.846
D5 Dozer	Diesel	1	80	120	0.55	10.5	0.504	3.198	0.289	0.257	2.17	0.004	312.846
Elevating Scraper	Diesel	3	80	250	0.72	10.5	0.487	4.555	0.182	0.162	1.372	0.005	409.544
Motor Grader	Diesel	2	80	500	0.61	10.5	0.309	2.97	0.111	0.099	1.066	0.003	346.974
Compactor	Diesel	2	80	250	0.56	10.5	0.3	3.15	0.114	0.101	0.895	0.003	318.534
Excavator	Diesel	2	80	500	0.57	10.5	0.262	2.444	0.089	0.079	0.803	0.003	324.222
Paver	Diesel	1	80	120	0.62	10.5	0.672	4.01	0.355	0.316	2.234	0.004	301.47
Roller	Diesel	1	80	120	0.56	10.5	0.608	3.782	0.330	0.294	2.233	0.004	318.534
Total													

Foundations - November 2011 - March 2012

Equipment	Fuel	Number	Days Operating**	HP	Load	Hr/day	Emissions Factor, g/hp/hr ROG	NOx	PM	PM2.5***	CO	SO2	CO2
Backhoe	Diesel	2	100	175	0.55	10.5	0.555	4.208	0.246	0.219	2.265	0.004	364.039
Skid Steer	Diesel	2	100	50	0.55	10.5	1.162	3.165	0.298	0.265	3.528	0.004	312.846
Generator	Gasoline	2	100	10	0.74	10.5	6.804	4.990	0.327	0.291	3.178	0.268	489.888
Water Truck	Diesel	1	100	250	0.5	10.5	0.302	2.876	0.100	0.089	0.798	0.004	324.222
Total													

Station Construction - June 2012 - September 2012

Equipment	Fuel	Number	Days Operating**	HP	Load	Hr/day	Emissions Factor, g/hp/hr ROG	NOx	PM	PM2.5***	CO	SO2	CO2
Water Truck	Diesel	1	80	250	0.5	10.5	0.286	2.631	0.090	0.080	0.768	0.004	324.222
Manlift	Diesel	5	80	120	0.46	10.5	0.41	2.728	0.219	0.195	1.679	0.003	261.653
Forklift	Diesel	2	80	175	0.3	10.5	0.188	1.409	0.084	0.075	1.005	0.002	170.643
Skip Loader	Diesel	2	80	175	0.55	10.5	0.327	2.56	0.147	0.131	1.81	0.004	312.846
Backhoe	Diesel	2	80	175	0.55	10.5	0.327	2.56	0.147	0.131	1.81	0.004	312.846
Total													

Line and Tower - June 2012 - December 2012

Equipment	Fuel	Number	Days Operating**	HP	Load	Hr/day	Emissions Factor, g/hp/hr ROG	NOx	PM	PM2.5***	CO	SO2	CO2
Water Truck	Diesel	1	90	250	0.5	10.5	0.302	2.876	0.100	0.089	0.798	0.004	324.222
Grader	Diesel	1	90	175	0.61	10.5	0.435	3.341	0.193	0.172	2.062	0.004	346.974
Fork Lift	Diesel	2	90	175	0.3	10.5	0.188	1.409	0.084	0.075	1.005	0.002	170.643
Backhoe	Diesel	1	90	175	0.55	10.5	0.327	2.56	0.147	0.131	1.81	0.004	312.846
Hole Auger	Diesel	1	90	175	0.75	10.5	0.227	2.261	0.111	0.099	2.279	0.005	426.608
Compactor	Diesel	1	90	15	0.75	10.5	0.285	1.783	0.071	0.063	1.493	0.004	244.589
Puller	Diesel	1	90	25	0.51	10.5	0.35	2.211	0.085	0.076	1.194	0.004	290.093
Tensioner	Diesel	1	90	120	0.51	10.5	0.587	3.367	0.324	0.288	2.116	0.003	290.093
Crane	Diesel	1	90	250	0.43	10.5	0.241	2.336	0.085	0.076	0.677	0.003	244.589
Total													

Post-construction - January 2013 - February 2013

Equipment	Fuel	Number	Days Operating**	HP	Load	Hr/day	Emissions Factor, g/hp/hr ROG	NOx	PM	PM2.5***	CO	SO2	CO2
Water Truck	Diesel	1	25	250	0.5	10.5	0.272	2.409	0.080	0.071	0.747	0.004	324.222
D3 Dozer	Diesel	1	25	50	0.55	10.5	0.921	2.983	2.46	2.189	3.298	0.004	312.846
Total													

* metric tons.

** Calculated based on the PG&E estimates.

*** For offroad combustion sources, it was assumed that 89% of PM10 would be PM2.5. This follows the SCAQMD calculation methodology, 2006.

Crazy Horse Canyon Switching Station
Emissions calcs for Construction equipment
Emissions factors, approximate HP ratings, and load defaults are from URBEMIS 2007, Ver 9.2.4.
Equipment lists and construction schedule supplied by PG&E, March 2010.
Page 2

Site Grading - July 2011 - October 2011

Emissions, lb/day							2010 Emissions, ton/phase**						
ROG	NOx	PM10	PM2.5	CO	SO2	CO2*	ROG	NOx	PM10	PM2.5	CO	SO2	CO2*
2.6220	24.9700	0.8682	0.7727	6.9284	0.0347	2814.9562	0.1049	0.9988	0.0347	0.0309	0.2771	0.0014	102.1475
2.8906	28.6640	1.0187	0.9067	9.3212	0.0509	3983.7419	0.1156	1.1466	0.0407	0.0363	0.3728	0.0020	144.5598
0.7701	4.8868	0.4416	0.3930	3.3159	0.0061	478.0490	0.0308	0.1955	0.0177	0.0157	0.1326	0.0002	17.3472
6.0886	56.9482	2.2754	2.0251	17.1532	0.0625	5120.2624	0.2435	2.2779	0.0910	0.0810	0.6861	0.0025	185.8012
4.3640	41.9454	1.5677	1.3952	15.0551	0.0424	4900.3225	0.1746	1.6778	0.0627	0.0558	0.6022	0.0017	177.8201
1.9448	20.4205	0.7390	0.6577	5.8020	0.0194	2064.9604	0.0778	0.8168	0.0296	0.0263	0.2321	0.0008	74.9321
3.4576	32.2533	1.1745	1.0453	10.5971	0.0396	4278.7334	0.1383	1.2901	0.0470	0.0418	0.4239	0.0016	155.2643
1.1576	6.9074	0.6115	0.5442	3.8482	0.0069	519.2959	0.0463	0.2763	0.0245	0.0218	0.1539	0.0003	18.8439
0.9460	5.8842	0.5134	0.4570	3.4742	0.0062	495.5905	0.0378	0.2354	0.0205	0.0183	0.1390	0.0002	17.9837
2.6220	**24.9700**	**0.8682**	**0.7727**	**6.9284**	**0.0347**	**2814.9562**	**0.1049**	**0.9988**	**0.0347**	**0.0309**	**0.2771**	**0.0014**	**102.1475**

Foundations - November 2011 - March 2012

Emissions, lb/day							2010 Emissions, ton/phase**						
ROG	NOx	PM10	PM2.5	CO	SO2	CO2*	ROG	NOx	PM10	PM2.5	CO	SO2	CO2*
2.4736	18.7545	1.0964	0.9758	10.0948	0.0178	1622.4695	0.1237	0.9377	0.0548	0.0488	0.5047	0.0009	73.5941
1.4797	4.0303	0.3795	0.3377	4.4925	0.0051	398.3742	0.0740	0.2015	0.0190	0.0169	0.2246	0.0003	18.0700
2.3314	1.7097	0.1121	0.0997	1.0889	0.0919	167.8636	0.1166	0.0855	0.0056	0.0050	0.0544	0.0046	7.6142
0.8740	8.3233	0.2894	0.2576	2.3095	0.0116	938.3187	0.0437	0.4162	0.0145	0.0129	0.1155	0.0006	42.5615
7.1587	**32.8178**	**1.8773**	**1.6708**	**17.9857**	**0.1264**	**3127.0260**	**0.3579**	**1.6409**	**0.0939**	**0.0835**	**0.8993**	**0.0063**	**141.8397**

Station Construction - June 2012 - September 2012

Emissions, lb/day							2010 Emissions, ton/phase**						
ROG	NOx	PM10	PM2.5	CO	SO2	CO2*	ROG	NOx	PM10	PM2.5	CO	SO2	CO2*
0.8277	7.6143	0.2605	0.2318	2.2226	0.0116	938.3187	0.0331	0.3046	0.0104	0.0093	0.0889	0.0005	34.0492
2.6199	17.4322	1.3994	1.2455	10.7290	0.0192	1671.9862	0.1048	0.6973	0.0560	0.0498	0.4292	0.0008	60.6721
0.4570	3.4253	0.2042	0.1817	2.4432	0.0049	414.8353	0.0183	0.1370	0.0082	0.0073	0.0977	0.0002	15.0533
1.4574	11.4096	0.6552	0.5831	8.0669	0.0178	1394.3097	0.0583	0.4564	0.0262	0.0233	0.3227	0.0007	50.5959
1.4574	11.4096	0.6552	0.5831	8.0669	0.0178	1394.3097	0.0583	0.4564	0.0262	0.0233	0.3227	0.0007	50.5959
6.8195	**51.2908**	**3.1744**	**2.8252**	**31.5286**	**0.0713**	**5813.7595**	**0.2728**	**2.0516**	**0.1270**	**0.1130**	**1.2611**	**0.0029**	**210.9664**

Line and Tower - June 2012 - December 2012													
Emissions, lb/day							2010 Emissions, ton/phase**						
ROG	NOx	PM10	PM2.5	CO	SO2	CO2*	ROG	NOx	PM10	PM2.5	CO	SO2	CO2*
0.8740	8.3233	0.2894	0.2576	2.3095	0.0116	938.3187	0.0393	0.3745	0.0130	0.0116	0.1039	0.0005	38.3053
1.0751	8.2574	0.4770	0.4245	5.0963	0.0099	857.5564	0.0484	0.3716	0.0215	0.0191	0.2293	0.0004	35.0083
0.4570	3.4253	0.2042	0.1817	2.4432	0.0049	414.8353	0.0206	0.1541	0.0092	0.0082	0.1099	0.0002	16.9350
0.7287	5.7048	0.3276	0.2915	4.0335	0.0089	697.1548	0.0328	0.2567	0.0147	0.0131	0.1815	0.0004	28.4602
0.6898	6.8706	0.3373	0.3002	6.9253	0.0152	1296.3617	0.0310	0.3092	0.0152	0.0135	0.3116	0.0007	52.9218
0.0742	0.4644	0.0185	0.0165	0.3889	0.0010	63.7070	0.0033	0.0209	0.0008	0.0007	0.0175	0.0000	2.6007
0.1033	0.6527	0.0251	0.0223	0.3525	0.0012	85.6338	0.0046	0.0294	0.0011	0.0010	0.0159	0.0001	3.4959
0.8317	4.7708	0.4591	0.4086	2.9982	0.0043	411.0423	0.0374	0.2147	0.0207	0.0184	0.1349	0.0002	16.7801
0.5998	5.8141	0.2116	0.1883	1.6850	0.0075	608.7560	0.0270	0.2616	0.0095	0.0085	0.0758	0.0003	24.8515
5.4338	**44.2834**	**2.3497**	**2.0913**	**26.2323**	**0.0644**	**5373.3662**	**0.2445**	**1.9928**	**0.1057**	**0.0941**	**1.1805**	**0.0029**	**219.3589**
Post-construction - January 2013 - February 2013													
Emissions, lb/day							2010 Emissions, ton/phase**						
ROG	NOx	PM10	PM2.5	CO	SO2	CO2*	ROG	NOx	PM10	PM2.5	CO	SO2	CO2*
0.7872	6.9718	0.2315	0.2061	2.1619	0.0116	938.3187	0.0098	0.0871	0.0029	0.0026	0.0270	0.0001	10.6404
0.5864	1.8993	1.5663	1.3940	2.0998	0.0025	199.1871	0.0073	0.0237	0.0196	0.0174	0.0262	0.0000	2.2587
1.3736	**8.8711**	**1.7978**	**1.6000**	**4.2617**	**0.0141**	**1137.5058**	**0.0172**	**0.1109**	**0.0225**	**0.0200**	**0.0533**	**0.0002**	**12.8991**

Crazy Horse Canyon Switching Station
Emissions calcs for on-site and commute truck miles
Equipment lists and usage percents supplied by PG&E, November 2009.
Page 1

Truck	Fuel	Number	Days Operating[1]	Average VMT Per day	Total VMT per day	Total VMT per phase	Emissions Factors (lb/mile)[2] CO	NOx	ROG	SOx	PM10	PM2.5	CO2	CH4
Site Grading - July 2011 - October 2011														
Pickup	Gasoline	2	80	30	60	4800	0.00826	0.00084	0.00085	0.00001	0.00009	0.00006	1.10235	0.00008
Crew Truck	Gasoline	3	80	30	90	7200	0.00826	0.00084	0.00085	0.00001	0.00009	0.00006	1.10235	0.00008
Fuel Truck	Diesel	1	80	30	30	2400	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Semi Truck	Diesel	4	80	30	120	9600	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Skip Loader Truck	Diesel	1	80	30	30	2400	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Mechanical Truck	Diesel	1	80	30	30	2400	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Total														
Foundations - November 2011 - March 2012														
Pickup	Gasoline	2	100	30	60	6000	0.00826	0.00084	0.00085	0.00001	0.00009	0.00006	1.10235	0.00008
Crew Truck	Gasoline	2	100	30	60	6000	0.00826	0.00084	0.00085	0.00001	0.00009	0.00006	1.10235	0.00008
1-ton Truck	Diesel	1	100	30	30	3000	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Dump Truck	Diesel	1	100	30	30	3000	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Concrete Truck	Diesel	2	100	30	60	6000	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Truck-mounted Digger	Diesel	2	100	30	60	6000	0.01112	0.03456	0.00280	0.00004	0.00166	0.00144	4.22046	0.00013
Total														
Station Construction - June 2012 - September 2012														
Pickup	Gasoline	21	80	30	630	50400	0.00765	0.00078	0.00080	0.00001	0.00009	0.00006	1.10153	0.00007
Crew Truck	Gasoline	2	80	30	60	4800	0.00765	0.00078	0.00080	0.00001	0.00009	0.00006	1.10153	0.00007
Boom Truck	Diesel	3	80	30	90	7200	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Semi Truck	Diesel	3	80	30	90	7200	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Total														

Line and Tower - June 2012 - December 2012														
Pickup	Gasoline	4	90	30	120	10800	0.00765	0.00078	0.00080	0.00001	0.00009	0.00006	1.10153	0.00007
Crew Truck	Gasoline	4	90	30	120	10800	0.00765	0.00078	0.00080	0.00001	0.00009	0.00006	1.10153	0.00007
Light Truck	Diesel	1	90	30	30	2700	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Fuel Truck	Diesel	1	90	30	30	2700	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Line Truck	Diesel	1	90	30	30	2700	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Bucket Truck	Diesel	2	90	30	60	5400	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Dump Truck	Diesel	1	90	30	30	2700	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
2-ton Flat-bed Truck	Diesel	1	90	30	30	2700	0.01022	0.03092	0.00253	0.00004	0.00150	0.00129	4.21591	0.00012
Total														
Post-construction - January 2013 - February 2013														
Pickup	Gasoline	2	25	30	60	1500	0.00709	0.00071	0.00075	0.00001	0.00009	0.00006	1.10087	0.00007
1-ton Truck	Diesel	2	25	30	60	1500	0.00932	0.02749	0.00226	0.00004	0.00134	0.00115	4.21519	0.00010
Total														

1: Calculated based on information supplied by PG&E.

2: Most conservative emissions factors from EMFAC2007 v.2.3 for the SCAQMD.

3: With 55% emissions reduction due to 2x daily watering (URBEMIS default).

See fugitive worksheet for calculation of emissions factors and paved/unpaved assumptions.

4: Calculated in metric tons.

Crazy Horse Canyon Switching Station
Emissions calcs for on-site and commute truck miles
Equipment lists and usage percents supplied by PG&E, November 2009.
Page 2

Emissions, tons/phase								
CO	NOx	ROG	SOx	Exhaust PM10	Fugitive PM10[3]	PM2.5	CO2[4]	CH4[4]
Site Grading - July 2011 - October 2011								
0.019831	0.002027	0.002046	2.58E-05	0.000213	0.06168	0.000136	2.40009	0.000167
0.029746	0.003041	0.003068	3.88E-05	0.00032	0.09252	0.000204	3.600136	0.000251
0.01335	0.04147	0.003355	4.77E-05	0.001993	0.11976	0.001734	4.594486	0.000141
0.053398	0.165879	0.013418	0.000191	0.007972	0.12336	0.006935	18.37795	0.000562
0.01335	0.04147	0.003355	4.77E-05	0.001993	0.11976	0.001734	4.594486	0.000141
0.01335	0.04147	0.003355	4.77E-05	0.001993	0.11976	0.001734	4.594486	0.000141
0.143023	**0.295356**	**0.028596**	**0.000398**	**0.014484**	**0.63684**	**0.012476**	**38.16163**	**0.001402**
Foundations - November 2011 - March 2012								
0.024788	0.002534	0.002557	3.23E-05	0.000266	0.0771	0.00017	3.000113	0.000209
0.024788	0.002534	0.002557	3.23E-05	0.000266	0.0771	0.00017	3.000113	0.000209
0.016687	0.051837	0.004193	5.96E-05	0.002491	0.1497	0.002167	5.743108	0.000176
0.016687	0.051837	0.004193	5.96E-05	0.002491	0.1497	0.002167	5.743108	0.000176
0.033374	0.103674	0.008386	0.000119	0.004983	0.2994	0.004335	11.48622	0.000351
0.033374	0.103674	0.008386	0.000119	0.004983	0.2994	0.004335	11.48622	0.000351
0.149698	**0.31609**	**0.030273**	**0.000422**	**0.015481**	**1.0524**	**0.013343**	**40.45887**	**0.001472**
Station Construction - June 2012 - September 2012								
0.1929	0.019551	0.020066	0.00027	0.002263	0.64764	0.001449	25.18206	0.001639
0.018371	0.001862	0.001911	2.58E-05	0.000215	0.23952	0.000138	2.398292	0.000156
0.036775	0.111326	0.0091	0.000146	0.005384	0.35928	0.004657	13.7686	0.000381
0.036775	0.111326	0.0091	0.000146	0.005384	0.09252	0.004657	13.7686	0.000381
0.28482	**0.244064**	**0.040176**	**0.000587**	**0.013247**	**1.33896**	**0.0109**	**55.11756**	**0.002556**

Line and Tower - June 2012 - December 2012								
0.041336	0.004189	0.0043	5.79E-05	0.000485	0.13878	0.000311	5.396156	0.000351
0.041336	0.004189	0.0043	5.79E-05	0.000485	0.13878	0.000311	5.396156	0.000351
0.013791	0.041747	0.003412	5.46E-05	0.002019	0.13473	0.001746	5.163226	0.000143
0.013791	0.041747	0.003412	5.46E-05	0.002019	0.13473	0.001746	5.163226	0.000143
0.013791	0.041747	0.003412	5.46E-05	0.002019	0.13473	0.001746	5.163226	0.000143
0.027581	0.083494	0.006825	0.000109	0.004038	0.26946	0.003493	10.32645	0.000285
0.013791	0.041747	0.003412	5.46E-05	0.002019	0.13473	0.001746	5.163226	0.000143
0.013791	0.041747	0.003412	5.46E-05	0.002019	0.13473	0.001746	5.163226	0.000143
0.179205	**0.300609**	**0.032486**	**0.000498**	**0.015104**	**1.22067**	**0.012845**	**46.93489**	**0.001701**
Post-construction - January 2013 - February 2013								
0.005319	0.000534	0.000559	8.04E-06	6.8E-05	0.019275	4.4E-05	0.749023	4.56E-05
0.006988	0.02062	0.001697	3.06E-05	0.001003	0.07485	0.00086	2.867967	7.1E-05
0.012308	**0.021154**	**0.002257**	**3.87E-05**	**0.001071**	**0.094125**	**0.000904**	**3.616991**	**0.000117**

Crazy Horse Canyon Switching Station
Emissions calcs for on-site and commute truck miles
Equipment lists and usage percents supplied by PG&E, November 2009.
Page 3

Emissions, lb/day								
CO	NOx	ROG	SOx	Exhaust PM10	Fugitive PM10[3]	PM2.5	CO2[4]	CH4[4]
Site Grading - July 2011 - October 2011								
0.495766	0.050676	0.05114	0.000646	0.005327	1.5420	0.003392	66.14109	0.004607
0.743648	0.076014	0.07671	0.000969	0.007991	2.3130	0.005088	99.21164	0.00691
0.333739	1.036743	0.083863	0.001192	0.049826	2.994	0.043347	126.6137	0.003873
1.334956	4.146971	0.335452	0.004766	0.199304	3.0840	0.173387	506.4548	0.015492
0.333739	1.036743	0.083863	0.001192	0.049826	2.994	0.043347	126.6137	0.003873
0.333739	1.036743	0.083863	0.001192	0.049826	2.994	0.043347	126.6137	0.003873
3.575586	**7.383889**	**0.71489**	**0.009957**	**0.362101**	**15.921**	**0.311906**	**1051.649**	**0.038628**
Foundations - November 2011 - March 2012								
0.495766	0.050676	0.05114	0.000646	0.005327	1.5420	0.003392	66.14109	0.004607
0.495766	0.050676	0.05114	0.000646	0.005327	1.5420	0.003392	66.14109	0.004607
0.333739	1.036743	0.083863	0.001192	0.049826	2.9940	0.043347	126.6137	0.003873
0.333739	1.036743	0.083863	0.001192	0.049826	2.9940	0.043347	126.6137	0.003873
0.667478	2.073485	0.167726	0.002383	0.099652	5.988	0.086693	253.2274	0.007746
0.667478	2.073485	0.167726	0.002383	0.099652	5.988	0.086693	253.2274	0.007746
2.993965	**6.321808**	**0.605457**	**0.008442**	**0.309611**	**21.048**	**0.266864**	**891.9644**	**0.032452**
Station Construction - June 2012 - September 2012								
4.822493	0.488773	0.501656	0.00676	0.056568	16.1910	0.036225	693.961	0.045165
0.459285	0.04655	0.047777	0.000644	0.005387	5.9880	0.00345	66.09152	0.004301
0.919367	2.783141	0.227488	0.003638	0.134609	8.9820	0.116419	379.4317	0.010486
0.919367	2.783141	0.227488	0.003638	0.134609	2.3130	0.116419	379.4317	0.010486
7.120512	**6.101605**	**1.004408**	**0.014679**	**0.331174**	**33.474**	**0.272512**	**1518.916**	**0.070438**

Line and Tower - June 2012 - December 2012								
0.91857	0.0931	0.095554	0.001288	0.010775	3.0840	0.0069	132.183	0.008603
0.91857	0.0931	0.095554	0.001288	0.010775	3.0840	0.0069	132.183	0.008603
0.306456	0.927714	0.075829	0.001213	0.04487	2.9940	0.038806	126.4772	0.003495
0.306456	0.927714	0.075829	0.001213	0.04487	2.9940	0.038806	126.4772	0.003495
0.306456	0.927714	0.075829	0.001213	0.04487	2.9940	0.038806	126.4772	0.003495
0.612911	1.855427	0.151658	0.002425	0.08974	5.9880	0.077612	252.9545	0.006991
0.306456	0.927714	0.075829	0.001213	0.04487	2.994	0.038806	126.4772	0.003495
0.306456	0.927714	0.075829	0.001213	0.04487	2.994	0.038806	126.4772	0.003495
3.98233	**6.680195**	**0.721912**	**0.011063**	**0.335638**	**27.126**	**0.285443**	**1149.707**	**0.041673**
Post-construction - January 2013 - February 2013								
0.425537	0.042695	0.04474	0.000643	0.00544	1.5420	0.003517	66.05246	0.004024
0.559074	1.64961	0.135785	0.002452	0.080218	5.9880	0.068777	252.9111	0.006265
0.984611	**1.692305**	**0.180525**	**0.003095**	**0.085658**	**7.53**	**0.072294**	**318.9636**	**0.010289**

Crazy Horse Canyon Switching Station
Fugitive Dust Emissions

Fugitive Dust from Grading
Acreage supplied by PG&E

Phase	Acres Graded	Acres Paved	Emission Factor[1] (lb PM10 / acre)	Emission Factor[1] (lb ROG / acre)	PM 10 Emissions[3] (lb/phase)	PM10 Emissions (tons/phase)	PM 10 Emissions (lb/day)[2]	ROG Emissions[3] (lb/phase)	ROG Emissions (tons/phase)	ROG Emissions (lb/day)[2]
Site Preparation	5.2	NA	20	NA	46.8	0.02	2.34	NA	NA	NA
Access Road	1.7	0.3	20	2.62	15.5	0.01	0.77	5.5	0.003	1.10
Total, Site Grading	**6.9**				**62.3**	**0.03**	**3.11**	NA	NA	NA
Towers (6) plus crane pads	4.3	NA	20	NA	38.5	0.02	1.28	NA	NA	NA
TSPs (5)	3.5	NA	20	NA	31.5	0.02	1.05	NA	NA	NA
Total, Line and Tower	**7.8**				**70.0**	**0.04**	**2.33**	NA	NA	NA

1: Emisions factor from URBEMIS2007, Version 9.2.4.
2: lb per day calculated based on estimated days grading/paving per phase.
3: With 55% emissions reduction due to 2x daily watering (URBEMIS default).

Fugitive Dust from Roads

Calculation of Emissions Factors **$E=[k(sL/2)^{0.65}*(W/3$** From USEPA AP-42, Chapter 13 Part 2.1
Paved Surfaces
Eq 1:
E = 0.001 Emissions PM10 (lb/vehicle mile traveled)
k = 0.016 Particle size multiplier (lb/vehicle mile traveled)
Where:
sL = 0.03 Silt loading (g/m^2)
W = 3 Weight (tons)
C = 0.0004 Brake and tire wear (lb/vehicle mile traveled)

$E=[k(s/12)^{a}*(W/3)^{b}]$ From USEPA AP-42, Chapter 13 Part 2.2
Unpaved Surfaces
Eq 1a:
E = 1.1 Emissions PM10 (lb/vehicle mile traveled)
k = 1.5 Particle size multiplier (lb/vehicle mile traveled)
Where:
s = 8.5 Silt content (%)
a = 0.9 Empirical constant
W = 3 Weight (tons)
b = 0.45 Empirical constant

Emissions for Fugitive PM10 are calculated on the Trucks worksheet using the Emission Factors calculated above.
Vehicle miles were estimated for pickups to consist of 95% paved surfaces and 5% unpaved.
Vehicle miles were estimated for other vehicles to consist of 80% paved surfaces and 20% unpaved.

Crazy Horse Canyon Switching Station
Emissions calcs for helicopter use.

				Emissions Factors[2]								Emissions (ton/quarter)					
Helicopter[1]	Engine	Mode	Fuel rate[2] (lb/hr)	CO (lb/hr)	NOx (lb/hr)	HC (lb/hr)	SOx (lb/hr)	PM (lb/hr)	CO2[3] (kg/gal)	Minutes per day[4]	Days per Quarter[5]	CO (ton/Q)	NOx (ton/Q)	HC (ton/Q)	SOx (ton/Q)	PM (ton/Q)	CO2[6] (ton/Q)
Hughes 500	250B17B	Idle	63	6.13	0.09	1.27	0.06	0	9.56	14.0	5	0.00358	0.00005	0.00074	0.00004	0.00000	0.10472
		Takeoff	265	2.07	1.75	0.07	0.27	0	9.56	4.3	5	0.00037	0.00032	0.00001	0.00005	0.00000	0.13655
		Climbout	245	2.21	1.46	0.09	0.25	0	9.56	608.7	5	0.05605	0.03703	0.00228	0.00634	0.00000	17.70496
		Approach	85	4.13	0.19	0.44	0.09	0	9.56	13.0	5	0.00224	0.00010	0.00024	0.00005	0.00000	0.13119
											TOTAL	**0.0622**	**0.0375**	**0.0033**	**0.0065**	**0.0000**	**18.08**
										Peak Daily (lb/day)		24.89	15.00	1.31	2.59	0.00	7970.77

1. Assume Hughes 500 is representative of helicopter to be used: emissions factors available from USEPA.
2. Emission factors used are from USEPA AP-42 Volume II. Source recommended by FAA EDMS tech support.
3. Emission factor for Jet Fuel - CA ARB Mandatory Reporting Regulation Appendix A, Table 4.
4. Minutes per mode based on default times in EDMS, assume 2 landing / takeoff cycles per day plus 10 hours in climbout mode during structure work.
5. 5 days activity assumed, during line and tower work.
6. In metric tons.

PG&E Crazy Horse Canyon Switching Station Project
Calculation of Criteria Pollutant Emissions Estimates for station operation.
Mobile Sources

BAAQMD CEQA Guidelines – Section 3.4 – Calculating Mobile Source Emissions – "Manual Calculation Method".
Emissions from vehicle use:

Light truck	**U**	**T**	**L[1]**	**R**	**S**	**g/day**	**lb/day**	**tons/day**
ROG	1	1	9.1	0.22	0.79	2.792	0.006155203	3.0776E-06
NOx	1	1	9.1	0.76	0.89	7.806	0.017208995	8.6045E-06
CO	1	1	9.1	3.66	12.85	46.156	0.10175485	5.08774E-05
SOx	1	1	9.1	0.03		0.273	0.000601852	3.00926E-07
PM10	1	1	9.1	0.44		4.004	0.00882716	4.41358E-06
Heavy truck	**U**	**T**	**L[1]**	**R**	**S**	**g/day**	**lb/day**	**tons/day**
ROG	1	1	2.3	0.22	0.79	1.296	0.002857143	1.42857E-06
NOx	1	1	2.3	0.76	0.89	2.638	0.005815697	2.90785E-06
CO	1	1	2.3	3.66	12.85	21.268	0.046887125	2.34436E-05
SOx	1	1	2.3	0.03		0.069	0.000152116	7.60582E-08
PM10	1	1	2.3	0.44		1.012	0.002231041	1.11552E-06

1) based on PG&E estimated miles per month and 22 work days per month.

PG&E Crazy Horse Canyon Switching Station Project
Calculation of GHG Emissions Estimates for station operation.

SF6 from operations - info supplied by PG&E.
= 0.71 MTon/year CO2e

Operations vehicles GHG emissions estimate*.

Vehicle	Fuel effic. miles/ gallon**	Trip Miles/month	Annual Miles	Fuel use Gallons/year	Gasoline vehicle, Model year 2005 Emission factor kgCO2/gal	Emission factor gN2O/mile	Emission factor gCH4/mile	Emissions Mt CO2	Emissions kg N2O	Emissions kg CH4	GWP N2O	GWP CH4	N2O MtCO2e	CH4 MtCO2e	Total emissions MtCO2e/year
Light truck	15	200	2400	160	8.81	0.0101	0.0157	1.4096	0.02424	0.03768	310	21	0.0075	0.0008	1.42
HD truck	5.8	50	600	103	8.81	0.0177	0.0326	0.9114	0.01062	0.01956	310	21	0.0033	0.0004	0.92

* emissions factors from The Climate Registry General Reporting Protocol. Adapted from USEPA Cllimate Leaders.
** TCR GRP and manufacturers average for 2005.

APPENDIX C:
Table of Sensitive Species with the Potential to Occur on the Project Site

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
Fish			
Oncorhynchus mykiss irideus Steelhead: south/central California coast evolutionarily significant unit (ESU)	FT, CH in Gabilan Creek	Steelhead are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating to the ocean to forage until maturity. The timing of upstream migration correlates with higher flow events, such as freshets or sand bar breaches, as well as with lower temperatures during the winter months. During spawning, thousands of eggs are laid in freshwater gravel nests excavated by females. Depending on lake/stream temperatures, eggs incubate for several weeks or months before hatching. Following yolk sac absorption, juveniles (fry) begin actively feeding. Juveniles may spend from a few hours to several years in freshwater areas before migrating to the ocean. Habitat loss has been acute in the Salinas basin.	No potential, but could be affected if water contaminated from the project drains into its habitat (Gabilan Creek)
Amphibians			
Ambystoma californiense California tiger salamander	FT, ST	Adults spend most of the year in subterranean refugia, especially burrows of California ground squirrels and occasionally man-made structures. During breeding migrations, individuals are sometimes found under surface objects, such as rocks and logs. Post-metamorphic juveniles retreat to small mammal burrows after spending a few hours or days in mud cracks near water or tunnels constructed in soft soil. Aquatic larvae seek cover in turbid water, clumps of vegetation, and other submerged debris. Central Valley distinct population segment (DPS) is listed as threatened. Santa Barbara and Sonoma counties DPS are listed as endangered. The species breeds in vernal pools and other temporary rainwater ponds, including cattle ponds, following relatively warm rains in November to February, and on submerged debris in shallow water. One juvenile was found trying to enter the project site during the upland protocol survey. Breeding habitat exists in Lagunita Lake	Present

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
		and an unnamed pond. Species could also occur in burrows in the grasslands. Nearest CNDDB occurrence is 0.8 mile northeast of the survey area. Another occurrence is approximately 1.5 miles west of the survey area.	
Rana aurora draytonii California red-legged frog	FT, CSC	Occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Breeds January to July (peaks in February). Requires 11 to 20 weeks of permanent water for larval development. Females attach eggs to vegetation 2 to 6 inches below the surface. Requires access to aestivation habitat. Individuals have been found at considerable distances from breeding sites on rainy nights. Breeding habitat is present outside but close to the survey area. Barrier of San Juan Grade Road exists between breeding habitat and dispersal habitat. Species could use survey area for dispersal. Pacific tree frog tadpoles (food source) were observed in well located in the survey area; nearest CNDDB occurrence is approximately 0.7 mile northwest of survey area.	Low potential
Taricha torosa torosa Coast Range newt	CSC	Occurs primarily in valley-foothill hardwood, valley-foothill, hardwood-conifer, coastal scrub, and mixed chaparral, but is also known from annual grassland and mixed conifer types. Terrestrial individuals seek cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells. Aquatic larvae find cover beneath submerged rocks, logs, debris, and undercut banks. Species could migrate though survey area during the rainy season; nearest CNDDB occurrence is approximately 2 miles northwest of survey area. Except for a well with Pacific tree frog tadpoles, no permanent water body is located within the survey area. An unnamed pond is located northeast of the study area and the species was present during aquatic surveys for the CTS. Lagunita Lake is dry during the summer; species	High potential

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
		may occur in survey area when traveling overland. The closest CNDDB record is 0.3 mile northwest of the survey area.	
Reptiles			
Actinemys marmorata pallida Southwestern pond turtle	CSC	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Hibernation in colder areas is passed underwater in bottom mud. Along large, slow-moving streams, eggs are deposited in nests constructed in sandy banks. Along foothill streams, females may climb hillsides, sometimes moving considerable distances to find a suitable nest site; a nest has been reported in a clover field 325 feet from water.	Moderate potential
Anniella pulchra nigra Black legless lizard	CSC	Common in several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub types. Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter. Legless lizards sometimes seek cover under surface objects such as flat boards and rocks where they lie barely covered in loose soil. They are often encountered buried in leaf litter and commonly burrow near the surface through loose soil. Species could occur in oak woodland; leaf litter present under trees and soils are loose and sandy. CNDDB records are deemed sensitive but species has been recorded somewhere between 2.3 to 10 miles west of survey area.	Moderate potential
Birds			
Accipiter striatus Sharp-shinned hawk	WL (nesting)	Probably breeds south in Coast Ranges to about 35 degrees latitude, and at scattered locations in the Transverse and Peninsular Ranges. Uses dense stands in close proximity to open areas. Roosts in intermediate- to high-canopy forest. Nests in dense, even-aged, single-layered forest canopy. Winters in woodlands. Nest typically located	Low to moderate potential

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
		within 275 feet of water. Although there is no CNDDB record, survey area is on boundary of species' range.	
Accipiter cooperii Cooper's hawk	WL (nesting)	Frequents landscapes where wooded areas occur in patches and groves. Often uses patchy woodlands and edges with snags for perching. Dense stands with moderate crown depths used for nesting. Nests in deciduous trees in crotches 10 to 80 feet, but usually 20 to 50 feet, above the ground. Nesting and foraging usually occur near open water or riparian vegetation. Usually nests in second-growth conifer stands, or in deciduous riparian areas, usually near streams. Seldom found in areas without dense tree stands or patchy woodland habitat. Nearest CNDDB occurrence is approximately 5.5 miles south of survey area where two adults and nestlings were observed in nest in May 2004.	Moderate potential
Agelaius tricolor Tricolored blackbird	CSC (nesting colonies)	Frequents fresh emergent wetlands. Nest may be located up to 4 miles from foraging areas. Seeks cover in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Roosts in large flocks in emergent wetland or in trees. Usually nests in dense cattails or tules; also nests in thickets of willow, blackberry, wild rose, and tall herbs. Nest usually located a few feet over, or near, fresh water; also may be hidden on ground among low vegetation. Builds nest of mud and plant materials. Highly colonial; nesting area must be large enough to support a minimum colony of about 50 pairs. Nearest CNDDB occurrence is at Lagunita Lake, where in 1971, approximately 1,000 individuals were observed.	Low potential
Aquila chrysaetos Golden eagle	FP, WL (nesting and wintering)	Uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, and rock outcrops. Nests on cliffs of all heights and in large trees in open areas. Rugged, open habitats with canyons and escarpments used most frequently for nesting.	Low potential

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
		Needs open terrain for hunting: grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. The nearest CNDDB occurrence is within approximately 0.9 mile northwest of the survey area where an adult was observed near a nest site in July 2001.	
Asio otus Long-eared owl	CSC (nesting)	Breeds from valley foothill hardwood up to ponderosa pine habitats. Species roosts and nests in riparian or other thickets with small, densely canopied trees. Old crow, magpie, hawk, heron, and squirrel nests in a variety of trees with dense canopy are used. Nest usually 10 to 50 feet above ground, rarely on ground or in tree or snag cavity. Breeding was confirmed at the Hastings Natural History Museum and near Carmel Valley, Monterey County. Denser oak woodland areas provide habitat. Old raptor nest was found near survey area and could be used by this species. No CNDDB occurrences were found.	Low to moderate potential
Athene cunicularia Burrowing owl	CSC (burrowing sites and some wintering sites)	Frequents open grasslands and shrublands with perches and burrows. Usually nests in old burrow of ground squirrel or other small mammal. May dig own burrow in soft soil. Pipes, culverts, and nest boxes may be used where burrows are scarce. Species has declined in Monterey County, with a small population remaining near Salinas and King City. Oak trees provide habitat for other raptors that would most likely prey upon owls, especially if young were present. Results of survey conducted for burrows showed lack of suitable burrows for the owl in the project area; nearest CNDDB occurrence is approximately 3.5 miles southwest of the survey area. One owl was observed occupying a ground squirrel burrow in January 2007.	Unlikely potential
Dendroica petechia Yellow	CSC (nesting)	Frequents open to medium-density woodlands and forests with a heavy brush understory in breeding season. In migration, found in a variety of sparse to dense woodland and forest habitats. In	Moderate to high potential

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
warbler		summer, usually found in riparian deciduous habitats, including cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. A population of roughly 500 to 900 pairs occurs in Monterey County. Species could occur in oak woodland and hunt for prey in non-native grassland. No CNDDB occurrences were found.	
Elanus leucurus White tailed-kite	FP (nesting)	Forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. Nests placed near the top of dense oak, willow, or other tree stand, usually 20 to 100 feet above ground. Nests located near open foraging areas. Species could occur in oak woodland and hunt for prey in non-native grassland; nearest CNDDB occurrence is approximately 8 miles west of survey area.	High potential
Lanus ludovicianus Loggerhead shrike	CSC (nesting)	Rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California; uses herbaceous lowlands with variable tree growth and dense population of voles. Substantial groves of dense, broad-leafed deciduous trees used for nesting and roosting. The species is uncommon in Monterey County, especially from Greenfield south, and has declined significantly in the agricultural region of the Salinas Valley. Species has suitable habitat present and could occur in oak woodland and hunt for prey in non-native grassland; survey area is near boundary of species breeding range. No CNDDB occurrences were found.	Moderate potential
Mammals			
Antrozous pallidus Pallid bat	CSC	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Roost must protect bats from high temperatures. Bats move deeper	Moderate potential

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
		into cover if temperatures rise. Night roosts may be in more open sites, such as porches and open buildings. Few hibernation sites are known, but species probably uses rock crevices. Species may use tree hollows for day roosts and open areas for foraging. The nearest CNDDB occurrence is approximately 5.5 miles north of the survey area.	
Corynorhinus townsendii Townsend's big-eared bat	CSC	Prefers mesic habitats. Gleans from brush or trees or feeds along habitat edges. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. May use separate sites for night, day, hibernation, or maternity roosts. Hibernation sites are cold, but not below freezing. Individuals may move within the hibernaculum (winter residence) to find suitable temperatures. Maternity roosts are warm. Roosting sites are the most important limiting resource. Found throughout most of California from sea level along the coast to 1,820-meter elevations in the Sierra Nevada Mountains, with populations concentrated in areas offering caves (commonly limestone or basaltic lava) or mines as roosting habitat. No suitable roosting habitat within survey area, but the species may forage over the survey area. Nearest record occurred before 1978 and is in the Gabilan Range approximately 5 miles southeast of the survey area.	Low potential
Dipodomys venustus venustus Santa Cruz (narrow-faced) kangaroo rat	CSC	Suitable habitat is characterized by open areas surrounded by chaparral, foothill woodlands, and brush/ herbaceous edges. Undisturbed, well-drained loam and sandy loam soils are required for burrowing. Species uses burrows for cover. Occurs in the cool, maritime mountains of west-central California. Historical records range from Mount Hamilton to Corralitos, with most specimens collected around Mount Hermon, Felton, and Bonny Doon in Santa Cruz County. Populations in the Santa Cruz Mountains are separate from populations in the Diablo and Gabilan Ranges. The survey area is between Santa	Unlikely

Potential of Sensitive Wildlife Species to Occur within Survey Area			
Scientific Name Common Name	**Status**	**General Habitat Description**	**Potential to Occur within Survey Area**
		Cruz County populations and disjunct populations in the Gabilan Range; however, suitable habitat is present within the survey area; nearest record is approximately 5.5 miles southeast of the survey area.	
Eumops perotis californicus Western mastiff bat	CSC	This species, which has a large wing span, resides at low elevations in the coastal basins. It primarily roosts in crevices in vertical cliffs, usually granite or consolidated sandstone, and in broken terrain with exposed rock faces; it may also be found occasionally in high buildings, trees, and tunnels. Nearest CNDDB occurrence is approximately 12 miles to the northeast in Hollister. Bat may use trees that exist within survey area to roost and may use survey area to forage. The bat may be attracted to this general area by the nearby stock pond, which is large enough to allow this large wing span species to use as a water source.	Low potential
Taxidea taxus American badger	CSC	Occurs in herbaceous, shrub, and open stages of most habitats with dry, friable soils. Badgers dig burrows in friable soil for cover and frequently reuse old burrows, although some may dig a new den each night, especially in summer. Badgers are rare in Monterey County. Nearest CNDDB occurrence is 0.9 mile northwest of the survey area.	High potential

Notes:

Federal Designations (USFWS):

CH: Critical Habitat within 5 miles of survey area

FT: Listed as threatened under the ESA by the federal government

State of California Designations (CDFG):

ST: Listed as Threatened by the state government

CSC: CDFG Species of Special Concern

WL: Watch List

FP: Fully Protected

APPENDIX D:
Geologic Units and Regional Faults in the Project Area

TABLE 1: GEOLOGIC UNITS THE PROJECT AREA

Symbol	Unit Name	Age	Description
Qls, al, t, f	Alluvium	Recent (Holocene)	Silts, sands, and clays; landslide, alluvium, terraces, fans, and granitic gravels
Qa	Aromas Red Sands	Middle Pleistocene	Red to yellow, friable, well-sorted, cross-bedded sands
Tp	Purisima Formation	Upper and Middle Pliocene	Fossiliferous gravels, sands, and some silts and clays
Tmv	Sandstone; Volcanic Group - Basalt	Middle and Lower Miocene	Andesite porphyry and agglomerate, with some interbedded arkosic sandstones and black flow at base
Trb, Tvar	Vaqueros Group	Middle and Lower Miocene	Red beds and arkosic sandstone, torrentially bedded, red conglomerate and breccia, with limestone boulders; coarse, fossiliferous sandstone
Tolp, Tolsj	San Lorenzo Group – Pinecate and San Juan Bautista Fm	Oligocene	Massive, poorly bedded, cavernous-weathering, yellow arkosic sandstone with few fossils; buff-colored, medium- to fine-grained sandstone and sandy fossiliferous shale
qd	Santa Lucia Quartz Diorite	(Pre-Jurassic)	Biotite-quartz diorite aplite
ss, gls	Sur Series and Gabilan Limestone	(Pre-Jurassic)	Quartzite, schist, and limestone

SOURCE: Allen, 1946

TABLE 2: REGIONAL FAULTS IN THE PROJECT AREA

Fault	Approximate Distance and Direction from Project Site (miles)	Fault Type	Slip Rate (inches per year)	Maximum Moment Magnitude[1]
Zayante-Vergeles	2.3 N	RL-R	0.003	6.8
San Andreas Fault Zone (1906 Event)	5.8 NE	RL-SS	0.669	7.9
Rinconada	8.1 NE	RL-SS	0.039	7.3
Sargent-Berrocal Fault Zone	10.2 NE	RL-R-O	0.118	6.8
Calaveras Fault (S of Calaveras Reservoir)	11.7 E	RL-SS	0.236	6.2
San Andreas Fault Zone (Santa Cruz Mts)	13.2 NW	RL-SS	0.669	7.0
Monterey Bay (Tularcitos)	19.1 SW	RL-R-O	0.020	7.1
Palo Colorado (Palo Colorado-San Gregorio Fault Zone)	27.3 SW	RL-SS	0.118	7.0
San Gregorio	29.6 W	RL-SS	0.197	7.3
Monte Vista	30.9 NW	R	0.016	6.5
Ortigalita	32.3 NE	RL-SS	0.039	6.9
Hayward (southeast extension)	34.9 N	RL-SS	0.118	6.5
San Andreas Fault Zone (peninsula segment)	35.2 NW	RL-SS	17	7.0

NOTES:

Fault Type: RL=right-lateral, R=reverse, SS=strike-slip, O=oblique

Unit:

NE northeast

E east

W west

NW northwest

SW southwest

[1] Maximum moment magnitude with a 90 percent probability of not being exceeded in 50 years.

SOURCE: Kleinfelder., 2003 and 2007, California Department of Conservation, 2002