

FINDING OF NO SIGNIFICANT IMPACT
JEFFERSON MARTIN 230 KV TRANSMISSION LINE PROJECT AND
SETTLEMENT AGREEMENT

National Park Service, U.S. Department of the Interior
Golden Gate National Recreation Area

INTRODUCTION

This Finding of No Significant Impact (FONSI) has been prepared, in accordance with the National Environmental Protection Act (NEPA), for the PG&E Jefferson – Martin 230kV Transmission Line Project and Settlement Agreement, San Mateo County, California. This document describes the selected alternative and provides an explanation of why it will have no significant effects on the human environment. As stated in the PG&E Jefferson-Martin 230 kV Transmission Line Project and Settlement Agreement Environmental Assessment (EA), the project refers to 1) the construction, operation, and maintenance of a 3.3-mile segment of the proposed 230 kV transmission line, towers/poles, and its associated right-of-way through the San Francisco Peninsula Watershed lands and 2) acceptance of the Settlement Agreement offered to the National Park Service (NPS) by PG&E.

In November 2003, the California Public Utilities Commission (CPUC) completed a final environmental impact report (FEIR), in accordance with the California Environmental Quality Act (CEQA), on the entire transmission line (CPUC-approved project). The FONSI, along with the EA, Errata Sheet, and FEIR comprise the complete record of environmental impact analysis for the project. The FONSI and mitigation measures are specific to the various components of the project.

PURPOSE AND NEED FOR ACTION

The PG&E Jefferson-Martin 230 kV transmission line is an electric transmission line to be constructed on the San Francisco Peninsula from PG&E's Jefferson Substation in San Mateo County off Cañada Road south of Edgewood Road, to PG&E's Martin Substation in Brisbane off Bayshore Boulevard. This transmission line is needed to meet forecasted electrical demand and improve reliability of electrical supply to San Francisco and the northern Peninsula. This project was approved by the CPUC in August 2004.

A 3.3-mile portion of this overall CPUC-approved project lies within the eastern edge of the San Francisco Peninsula Watershed, between San Andreas Lake and Interstate 280, where the NPS holds a Scenic and Recreation Easement (Easement). These lands are owned by City and County of San Francisco (CCSF) and managed by the San Francisco Public Utilities Commission (SFPUC). The NPS contends that the Easement grants the NPS approval authority over the Jefferson-Martin project; PG&E and CCSF disagree. PG&E proposed a Settlement Agreement (Agreement) to resolve the land rights dispute between the three parties.

The Agreement is needed to settle competing interpretations of the Easement and agree on a resolution that would benefit all parties. The purpose of the Agreement is to mitigate and compensate for impacts to scenic and recreation resources within the Easement that result from the 3.3-mile overhead segment of the project, thereby allowing for the construction and implementation of the CPUC-approved project without objection from NPS.

ALTERNATIVES

The objective for the project is to protect NPS's Easement holder rights without lengthy and costly legal proceedings. Two alternatives were evaluated. Alternative 1, Proposed Project and Settlement Agreement, was the only action alternative that met this objective. Alternative 2 is the No Action Alternative. Alternative 2 does not meet the objective of the project but was analyzed to meet NEPA requirements.

Alternative 1 - Selected Alternative

The NPS selects Alternative 1 (Proposed Project and Settlement Agreement), as described in the EA, for implementation. NPS's acceptance of PG&E's Settlement Agreement, would result in 1) construction and operation of the CPUC-approved project; 2) funding for additional trail/recreation/resource improvements; and 3) participation in acquisition and conservation of open space land.

The settlement, as set forth in the Agreement, will not resolve the legal questions underlying competing interpretations of the Easement. However, it will allow for the construction and implementation of the Jefferson-Martin 230 kV Transmission Project to proceed without objection from NPS. PG&E will provide \$1.5 million for land acquisition and conservation as well as improvements to recreational, scenic, natural, and/or open space values to mitigate for impacts to NPS's Easement. A good faith effort will be made by the NPS and PG&E to enter into any agreements necessary to facilitate the acquisition by NPS of a parcel of open space land owned by the City of Pacifica in San Bruno, California ("Sweeney Ridge Gateway Parcel"), or an easement on that particular parcel. If acquisition of the Sweeney Ridge Gateway Parcel cannot be completed, PG&E will work with the Golden Gate National Parks Conservancy or another recipient approved by the NPS to facilitate the use of mitigation funds to improve recreational, scenic, natural, and/or open space values within the GGNRA or on land contiguous to the GGNRA boundary.

The Proposed Project is limited to portions of the Jefferson-Martin transmission line within NPS Easement boundaries. It consists of the removal of 3.3 miles of the existing overhead double-circuit 60 kV transmission line and replacing it in an expanded easement on new poles with a new overhead double-circuit transmission line consisting of a single 230 kV circuit and a single 60 kV circuit. There is a short section of underground line that lies within the existing paved access road. Approximately 25 existing structures will be replaced with 22 new structures, most adjacent to their existing locations. Two new structures will be added.

PG&E will use tubular steel poles for the new line replacing the existing lattice structures and lattice steel poles. The new tubular steel poles will generally be larger and taller than the existing structures, as necessary to support the heavier weight of the new line, to provide for the necessary electrical ground clearance, and also as a result of greater separation between the conductor phases. The new structures range in height from 95 to 130 feet, with a base ranging from 5 to 7 feet in diameter. Four transition structures are needed to accommodate the change from the 230 kV overhead to the underground line and back to underground. Two will be needed to cross Crystal Springs Dam in a temporary overhead configuration, and one will be needed at both the beginning and terminus of the overhead section. The transition structure is a dead-end structure with the appearance of a tubular steel pole with a height similar to the other steel poles used for the overhead section.

The procedures for construction and bringing personnel, materials, and equipment to each structure site will vary along the route alignment. PG&E will generally construct the transmission line in the following five steps: 1) Site Access Preparation; 2) Installation of the Supporting Structure Foundations; 3) Removal of Existing Facilities; 4) Erecting the Supporting Structures; and 5) Conductor Stringing. Details of each step are provided in the EA.

PG&E will have to maintain the 230 kV/60 kV lines for the duration of their existence. Therefore, both tower and vegetation management in the right-of-way (ROW) will be required. The ROW easement owned by PG&E will be expanded from approximately 50 feet to up to 100 feet in width. The line would be inspected by either helicopter or ground patrol every 12 months. This annual patrol would involve identifying vegetation that would be a compliance issue with California Public Resource Code (PRC) 4292 and 4293 (fire prevention standards for electrical utilities) within 12-18 months. PRC 4292 states that certain transmission towers must be cleared of brush 10 feet in any direction from the tower base dependent on the equipment present on each tower. PRC 4293 states that vegetation shall not be closer than six feet to the conductor during any weather condition or electrical loading on the line. Additionally, dead, old, decadent, or rotten trees, trees weakened by decay or disease, and trees or portions thereof that may contact the line shall be felled, cut, or trimmed as appropriate.

Modifications to the Selected Alternative

The project actions included in the Selected Alternative are the same as presented in the EA. There are, however, additional or more specific conservation and mitigation measures imposed by regulatory agencies, related to tree removals. This is discussed under Agency Consultation and the measures are included in the mitigation table, in Appendix A.

Alternative Two: No Action

The No Action Alternative assumes the Settlement Agreement would not be approved by the NPS and the Proposed Project not constructed by PG&E. Without the Settlement Agreement, the following two scenarios could result:

Scenario 1: The NPS obtains a judicial determination that the CPUC-approved Jefferson-Martin Project triggers NPS concurrence rights under the Easements, forcing PG&E or CCSF to either apply for and obtain a concurrence determination with the existing CPUC-approved project route from the NPS or go back to CPUC for approval of a different route. Prior to NPS concurrence, NEPA analysis would be completed. If NPS withheld its concurrence or for other reasons PG&E seeks approval of a different route from the CPUC outside of the NPS Easements, no impacts would result along the CPUC-approved route. In the short term, this scenario would result in a delay in construction of the CPUC-approved project if NPS seeks and receives an injunction to halt construction of the transmission line while a court's determination of the nature of NPS's rights under the Easements is pending.

Scenario 2: The NPS fails to obtain a judicial determination that the CPUC-approved Jefferson-Martin Project triggers NPS concurrence rights under the Easements, in which case implementation of the CPUC-approved project proceeds as planned. This would eliminate the terms of the Agreement including financial contributions from PG&E for mitigation including recreation improvements and the acquisition and conservation of open space land. In the short term, there could be a delay in project construction while the court considers NPS's claims regarding the applicability of the Easements. If NPS does not seek or a court does not grant such an injunction, construction of the CPUC-approved project would continue while these legal issues are determined by a court.

Due to the speculative nature of these potential outcomes, the NPS determined that, for the purposes of comparative analysis, the no action alternative would describe baseline conditions at the project site. The baseline condition assumes that no new construction or activities will occur in the San Francisco Peninsula Watershed on NPS Easement lands. Maintenance and vegetation management actions would continue on the existing 60 kV PG&E transmission facilities. Tower and vegetation maintenance activities would be the same as for the Selected Alternative, although in a 50-foot ROW instead of a 100-foot ROW.

Environmentally Preferred Alternative

The National Park Service has determined that the environmentally preferred alternative for this project is Alternative 2: No Action. The environmentally preferred alternative is the alternative that will promote the national environmental policy expressed in NEPA (sec. 101 (b)). This includes alternatives that:

1. Fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, whenever possible, an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The CEQ Regulations implementing NEPA and the NPS NEPA guidelines require that “the alternative or alternatives which were considered to be environmentally preferable” be identified (Council on Environmental Quality Regulations, Section 1505.2). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

Alternative 2, in which the Proposed Project and Agreement are not approved and implemented (Scenario 1), would immediately have the fewest impacts on cultural and natural resources. This alternative would have the least amount of damage to the biological and physical environment and is consistent with NEPA criteria one, two, three, and four. It is also consistent with the Environmentally Superior Alternative identified in the FEIR by the CPUC. The possibility also exists that No Action Alternative could result in a judicial determination against the NPS and construction of the CPUC-approved project could be implemented in the absence of any mitigation or compensation for impacted lands within the NPS easement (Scenario 2). This is inconsistent with NEPA criteria two, four, and five.

Although the Selected Alternative may not cause the least damage to the environment, it does create a beneficial compromise that protects, preserves, and enhances historic, cultural, and natural resources in another location that would not otherwise be protected by the NPS. Mitigation measures implemented to reduce impacts to the greatest extent practicable will ensure that there will be no degradation to the human environment. The Selected Alternative meets NEPA criteria five, by achieving a balance between population needs and preserving resources. It would also result in additional environmental benefits associated with conservation of open space lands and improvements to recreational, scenic, natural and/or open space resources within the GGNRA or on land contiguous to or within the GGNRA boundary. These benefits would be produced without the creation of any significant environmental impacts.

PUBLIC INVOLVEMENT

Public scoping was initiated at a GGNRA Public Meeting on September 21, 2004, at the Sanchez Concert Hall in Pacifica, California. Notification for this meeting was sent out to over 1,200 people, agencies, and organizations on the GGNRA mailing list. Sixty-five members of the public attended the meeting; seven people provided oral comments. All seven commenters were supportive of the NPS's acquisition of the “Sweeney Ridge Gateway Parcel” on Sneath Lane as compensation for impacts in the watershed. Five of the seven specifically mentioned that additional negotiations might be needed to increase funds to cover

all of the costs of the proposed mitigation and especially to ensure that PG&E purchases the property from the City of Pacifica at fair market value. Individuals who commented also addressed reasons to preserve the Gateway property which included water quality, watershed protection, existence of a sag pond, wildlife habitat, wildlife travel corridor, value to listed species, and linkage to Sweeney Ridge, the Bay Ridge Trail, and the Sawyer Trail.

A scoping letter for the project was mailed on October 1, 2004 to government agencies, elected officials, resource organizations, and former GGNRA advisory commissioners to solicit early input into the scope and range of issues to be analyzed in the document. A scoping notice was also electronically mailed on that same date to approximately 85 individuals that were on a California Public Utilities Commission Service List for PG&E. The comment period ended on October 15, 2004 but GGNRA received and considered comments after that date. The project was reviewed by interdisciplinary staff of the Golden Gate National Recreation Area (GGNRA) at an internal Project Review meeting on December 1, 2004 and by the GGNRA Historic Preservation Group (5X) on December 8, 2004.

The California Department of Fish and Game forwarded two letters that they had previously sent to the California Public Utilities Commission for the *Draft Environmental Impact Report, Jefferson-Martin 230 kV Transmission Line Project*. One scoping letter from the Pacificans for Sustainable Development, one from the Bay Area Ridge Trail Council and three from private citizens were also received; each letter expressed support of the Sweeney Ridge Gateway Parcel as mitigation and the need to negotiate further with PG&E to ensure that PG&E can adequately fund all of the described mitigation measures. The Bay Area Ridge Trail Council recommended that any additional funds be restricted to the NPS Trails Forever Program for San Mateo County trail maintenance and management projects. The National Park Service considered all public comments.

The EA was made available for public review and comment during a 35-day period beginning on May 2, 2005 and ending June 6, 2005. Public notice of the availability of the EA was provided to individuals, organizations, and agencies through notification on the park website (<http://parkplanning.nps.gov/goga>), mailing of the EA (46), and a postcard/email notice (108). The EA was sent to six local libraries: San Francisco Civic Center, Pacifica, Millbrae, Burlingame, and San Bruno. Five written comments were received. Letters from the City of Pacifica, the Committee for Green Foothills, and *People for a Golden Gate National Recreation Area* all supported the Agreement as mitigation for the Jefferson-Martin 230 kV Project. The California State Clearinghouse reported that no comments were received from state agencies and Caltrans stated the need for an encroachment permit (this will be completed by PG&E).

AGENCY CONSULTATION

U.S. Army Corps of Engineers: A Pre-Construction Notification was provided to the U.S. Army Corps of Engineers (USACE) on December 17th, 2004, for concurrence that the project meets the requirements of Nationwide Permit 13 (Bank Stabilization), Nationwide Permit 33 (Temporary Construction, Access, and Dewatering), and Nationwide Permit 39 (Residential, Commercial and Institutional Developments). On August 30, 2005, PG&E received authorization to proceed under these nationwide permits. Six special conditions were added to the Nationwide Permit authorization; they are included in the mitigation table in Appendix A.

U.S. Fish and Wildlife Service: The USACE sent biological information and a consultation request to U.S. Fish and Wildlife Service (FWS) on December 20, 2004. The FWS requested additional information in the form of a Biological Assessment on February 11, 2005; a Biological Assessment was subsequently provided to the FWS on February 22, 2005 (FWS, 2005c). On date, August 12, 2005, PG&E received a

biological opinion, which contained conservation/mitigation measures for the project. These measures are included in the mitigation table, in Appendix A.

California Department of Fish and Game: A Lake and Streambed Alteration Notification Application was submitted to CDFG on February 25, 2005 to ensure that any action that is undertaken is not likely to jeopardize the continued existence of any state-listed endangered or threatened species, or result in destruction or adverse modification of essential habitat. On May 23, 2005, PG&E received a Notification of Lake or Streambed Alteration Agreement, No. 1600-2005-0229-3. In addition, consultation with CDFG is required to ensure that any action that is undertaken is not likely to jeopardize the continued existence of any state-listed endangered or threatened species or result in adverse modification of essential habitat. A request to initiate consultation was submitted on February 28, 2005. On August 16, 2005, PG&E received recommendations from CDFG to avoid or minimize harm to sensitive plant and animal species, and sensitive habitats on Segment 2 of the project. These measures are included in the mitigation table included in Appendix A.

Regional Water Quality Control Board: A permit application for Water Quality Certification was submitted to the Regional Water Quality Control Board (RWQCB) on February 28, 2005. On April 19, 2005 the RWQCB issued to PG&E a Conditional Water Quality Certification for the project. The conditions of the certification are included in the Mitigation Table in Appendix A. In addition, A Notice of Intent for work under the General Construction Permit was submitted to the RWQCB on September 17, 2004. The RWQCB provided written confirmation of receipt and issued the Project the following identification number: 241C330002. As required by the General Permit, a Stormwater Pollution Prevention Plan has been prepared for the project.

Advisory Council on Historic Preservation and California State Historic Preservation Officer: The CPUC consulted with the SHPO in the development of the FEIR. The few cultural resources or historic properties in the project vicinity have been avoided through project routing and design; therefore, additional consultation is not required. Should unknown resources be discovered during construction, work will be temporarily halted while the resource is evaluated and SHPO consulted as needed. The GGNRA Preservation Assessment (5X) Group concurred that the Proposed Project did not require certification for compliance with the National Historic Preservation Act.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE QUALITY OF THE HUMAN ENVIRONMENT

The NPS used the following NEPA criteria and factors defined in 40 CFR §1508.27 to evaluate whether the Selected Alternative would have a significant impact on the environment.

Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts that require analysis in an EIS. Whether taken individually or as a whole the impacts of the project do not reach the level of significance; there are no major adverse impacts. The majority of adverse impacts would occur during construction and would be local, short-term and negligible to moderate. These impacts include direct, indirect, and cumulative impacts to visual resources, wildlife and vegetation, wetlands, soils, hydrology, public health and safety, recreational resources, air quality, noise, and transportation and traffic. There will be long-term local negligible to moderate adverse impacts on paleontological resources, visual resources, vegetation, wetlands, visitor experience, and wildlife. Implementation of mitigation measures will minimize project effects, restore affected habitat to pre-existing conditions, and compensate for the resources permanently affected. There could also be negligible to minor, local, adverse permanent effects on soils.

The Selected Alternative would also have long-term, moderate beneficial effects on the human environment. These beneficial effects include a long-term beneficial impact related to geologic hazards from seismic activity, as extensive structural seismic provisions have been used in the design and siting of the transmission line that represent an improvement over existing conditions. Clean up and disposal of contaminated soil or groundwater resulting from construction of the project and remaining from other projects would be a beneficial impact to public health. The Settlement Agreement includes the provision of funds for either acquisition of the Sweeney Ridge Gateway parcel or another suitable parcel and for the improvement of recreational, scenic, natural, and/or open space resources. These compensation measures will have long-term benefits to biological resources because they will help offset long-term impacts to recreational, scenic, and natural resources in the San Francisco Peninsula Watershed by ensuring that the land is not developed and that these values are enhanced and maintained. The Agreement would also provide funds for the acquisition and conservation of habitat that would likely benefit regional wildlife populations.

Degree of effect on Public Health or Safety. The project includes mitigation to reduce the risk of construction-related impacts on public health and safety; adverse impacts would be local, short-term, and negligible to minor. Numerous mitigations in the EA discuss how PG&E and its contractor will avoid, clean-up, use, sample, monitor, and dispose of contaminants and hazardous materials in compliance with all local, State, and federal requirements. PG&E will prepare a Hazardous Substance Control and Emergency Response Plan and Health and Safety Plan. Environmental training and a monitoring program will be implemented. Disturbance of existing underground pollution is unlikely as it is down-gradient from the proposed construction and physically separated from the project site by barriers such as Interstate 280 or Skyline Boulevard. The alternative could also have a beneficial effect if contaminants are found since they will be cleaned up and will no longer pose a threat to public health.

There is public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMFs) from power lines; however, much of the national and international research regarding EMF and public health risks is contradictory or inconclusive and there is no agreement among scientists that EMF creates a potential health risk. However, in order to be responsive to these concerns, PG&E incorporated mitigations into their overall project to reduce the magnetic field strength levels. The FEIR provides a discussion of this issue; it was not addressed in the EA.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. The project area consists of public open space that lies within the eastern edge of the San Francisco Peninsula Watershed, between San Andreas Lake and Interstate 280, and is used for the collection, storage, and transmission of water for area residents and for public use and enjoyment. The watershed is relatively undisturbed and serves as an important biological preserve for the region providing habitat for wildlife, including three special status species. It contains rare plants, limited wetlands, aquatic resources, and a variety of vegetation communities. The project area is within the GGNRA boundary and adjacent to NPS land at Sweeney Ridge but not in proximity to historic/ cultural resources, prime farm lands or wild and scenic rivers. Mitigations reduce adverse impacts to a negligible to moderate level. A special-status wildlife protection plan, tree replacement plan, vegetation management plan, erosion control and revegetation plan, and Stormwater Pollution Prevention Plan are required prior to the CPUC granting a Notice to Proceed. Consultation has occurred with appropriate regulatory agencies and work will be completed in compliance with all permitting requirements. As part of the Agreement, additional park lands with unique characteristics will be preserved and protected.

Degree to which effects on the quality of the human environment are likely to be highly controversial. The project as proposed by PG&E and the CPUC in the draft EIR, released July 2003, was controversial. Public concern focused on health risks from increased EMF emissions, visual and scenic impacts, and

impacts to property values. Comments from organizations, individuals, and government agencies noted concern regarding potential impacts to plants, wildlife, habitats, and the inadequacy of the purpose and need, alternatives, and the environmental review and decision-making process. In the FEIR, PG&E and the CPUC analyzed a revised project that was developed in response to the public and agency input and addressed the controversial issues of the community. However, the NPS did not support this revised project, as a portion of the new route was to be constructed within the NPS Scenic and Recreation Easement on San Francisco Peninsula Watershed lands rather than within paved roadways outside of NPS boundaries. To resolve this controversy, PG&E proposed the Settlement Agreement to the NPS, which is analyzed in this EA.

The NPS Selected Alternative generated limited interest during both scoping and the public comment period. The Settlement Agreement will have beneficial effects to the environment by improving recreational, scenic, natural, and/or open space values and is supported by the public, agencies, and organizations.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks. Generally, the potential impacts are well defined and analyzed in both the CPUC FEIR and the NPS EA. No adverse impacts to cultural resources are expected; however, ground-disturbing activities associated with the project present the potential of encountering unanticipated cultural resources during project construction. Measures have been taken to reduce this risk such as surveys, preparation and implementation of a Cultural Resources Treatment Plan, and construction personnel training. Should unknown resources be discovered during construction, work will be temporarily halted while the resource is evaluated and SHPO consulted as needed. As discussed under Public Health and Safety, risks from EMFs are uncertain and unknown, but mitigations to reduce effects will still be implemented.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The Scenic and Recreation Easement calls for preservation of the land in its present natural state, and requires that the land not be used for any purpose other than “for the collection, storage, and transmission of water and protection of water quality; outdoor recreation; ecological preservation and other purposes which shall be compatible with preserving said land as open-space land for public use and enjoyment.” NPS was proactive throughout the CPUC process, and through this EA and Settlement discussion, it will protect the values and carry out its responsibilities under the Easement. The NPS not only contributed to the environmental analysis and mitigation development for actions within the Easement area, but will also enter into a Settlement Agreement that will compensate for impacts of the CPUC-approved project. The NPS will continue to protect its interest in the land, to ensure that no other actions are imposed that could diminish the protected resources within the Easement.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. The EA considered the cumulative impacts of the selected alternative with several past, present and ongoing future projects. The analysis for all impact topics indicated that the Selected Alternative could result in minimal and not collectively significant cumulative effects.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. As discussed in the Agency Consultation section, the CPUC consulted with the SHPO and GGNRA cultural resources specialists reviewed the project under the GGNRA Programmatic Agreement with the SHPO. There are no known cultural resources within the 3.3-mile

overhead segment through GGNRA lands and the few historic properties or cultural resources in the project vicinity have been avoided through project routing and design. Therefore, the action will not adversely affect cultural or historical resources.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat.

Three federally listed species are known to occur in the project area: the San Francisco garter snake, California red-legged frog, Mission blue butterfly, and bald eagle. In their August 12, 2005 biological opinion, FWS determined that the project is not likely to adversely affect the bald eagle because 1) the project will occur before eagles arrive in the project area and 2) numerous conservation measures will minimize project-related effects to a level of insignificance or discountability. The FWS also determined that the project will have no effect on designated critical habitat for the Mission blue butterfly (no critical habitat is present in the project area) or the San Francisco garter snake or bald eagle (no critical habitat has been designated for these species). There is the potential for impacts to the San Francisco garter snake, red-legged frog and/or Mission blue butterfly. As discussed in the EA, these adverse effects will be local, short-term, and minor to moderate. The biological opinion contains numerous conservation measures to address these issues and PG&E will adhere to the terms, conditions, and conservation measures contained within the biological opinion in accordance with the Endangered Species Act of 1973, as amended. If it is determined that incidental take authorization for species listed under the California Endangered Species Act is needed, then PG&E will obtain a Section 2081(b) permit, which allows a limited level of incidental take to otherwise lawful activities provided that the impacts of the authorized take are minimized and mitigated and the issuance of the permit will not jeopardize the continued existence of a State-listed species.

Whether the action threatens a violation of Federal, state, or local environmental protection law

Implementing the Selected Alternative would violate no federal, state or local environmental protection laws. Assessment of the proposed action has been performed pursuant to the National Environmental Policy Act, which requires consideration of environmental protection laws and regulations.

IMPAIRMENT

In addition to reviewing the list of significance criteria, the National Park Service has determined that implementation of the Selected Alternative and mitigation measures will not constitute an impairment to Golden Gate National Recreation Area's resources and values. There would be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the park's establishing legislation; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents. This conclusion is based on a thorough analysis of the environmental impacts described in Jefferson Martin 230 kV Transmission Line Project Settlement Agreement Environmental Assessment, the mitigation measures, agency consultations, considerations of the public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in NPS Management Policies 2001.

MITIGATION MEASURES

Extensive mitigation measures are included as a key component of the Selected Alternative and will be completed by PG&E, its Contractor, and the NPS. Mitigations have been itemized in Appendix A.

for enjoyment of the park; or 3) identified as a goal in the park's general management plan or other relevant NPS planning documents. This conclusion is based on a thorough analysis of the environmental impacts described in Jefferson Martin 230 kV Transmission Line Project Settlement Agreement Environmental Assessment, the mitigation measures, agency consultations, considerations of the public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in NPS Management Policies 2001.


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CONCLUSION

Implementation of the Selected Alternative for the for the PG&E Jefferson –Martin 230kV Transmission Line Project and Settlement Agreement will not have significant impacts on the human environment. The determination is sustained by the analysis in the EA, agency consultations, the inclusion of public review, and the capability of mitigations to reduce or avoid impacts. Adverse environmental impacts that could occur are minor or moderate in intensity, duration, and context. As described in the EA, there are no highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence. There are no previous, planned, or implemented actions, which in combination with the selected alternative would have significant effects on the human environment. Requirements of the National Environmental Policy Act have been satisfied and preparation of an Environmental Impact Statement is not required. The GGNRA and PG&E will enter into a Settlement Agreement to allow PG&E to implement the selected alternative as soon as practical.

Recommended:  8-31-05
Brian O'Neill, Superintendent Date
Golden Gate National Recreation Area, National Park Service

Approved:  9-2-05
Jonathan B. Jarvis, Regional Director Date
Pacific West Region, National Park Service

APPENDIX A - MITIGATION MEASURES

The mitigation measures on the following pages are included as part of the Selected Alternative and will be completed by PG&E, its Contractor, and the NPS. Additional and more specific measures from regulatory agencies have been added to the original table that was published in the EA.

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MITIGATION MEASURES INCLUDED AS PART OF THE SELECTED ALTERNATIVE

Additional or specific measures included as a result of regulatory agency consultation are preceded by an asterisk (*)

Mitigation Measure	Responsible for Compliance
SETTLEMENT AGREEMENT MITIGATION	
PG&E will provide up to \$1.5 million dollars to improve recreational, scenic, natural and/or open space values within the GGNRA or on land contiguous to the GGNRA boundary. PG&E, NPS, and the City of Pacifica have reached a tentative agreement to purchase the 7.2-acre Sweeney Ridge Gateway Parcel in San Bruno. PG&E seeks to purchase the property and deed it to the GGNRA, where it will remain open space. The property is contiguous with the San Francisco Peninsula Watershed. Other mitigation priorities are currently being considered for implementation with the remainder of the Settlement Agreement mitigation funds (Appendix A of the EA contains criteria for selection of Settlement Agreement mitigation sites).	PG&E and NPS
VISUAL RESOURCES	
Use Tubular Steel Poles from Structure 11/69 to 14/95 (V-15b in FEIR). PG&E shall use tubular steel poles rather than the proposed lattice steel structures from Structure 10/69 to Structure 14/95. This measure would simplify structural appearance, enable the structures to better blend in with adjacent trees and landscape, and reduce structural contrast.	PG&E and Contractor
Visual Impact Minimization (V-1a in FEIR) Reduce visibility of construction activities and equipment.	PG&E and Contractor
Paint Structures with Appropriate Colors (V-6a in FEIR). Transmission structures visible from sensitive viewing locations (Structures 10/69-14/95) shall be painted appropriate colors to most effectively blend with the visible background landscape.	PG&E and Contractor
Relocate Structures (V-16a in FEIR). Relocate proposed Structure 11/75 to the east as shown in Figure 2. This reroute would eliminate the visual prominence of Structure 11/75 on views from the Sawyer Camp Trail at San Andreas Lake Dam. In order to minimize impacts to a row of Monterey Cypress, a new structure, Structure 12/82a, was located on a hillside and Structures 13/83 and 13/84 were relocated to the north of their existing locations, allowing shorter spans that reduce the amount of tree removal in this area.	PG&E and Contractor
Eliminate Structures (V-19a in FEIR). Eliminate Structures 11/75, 14/90, and 14/92 by increasing span distances between proposed structures. PG&E shall consult with the visual specialist to ensure that the objectives of this measure are achieved.	PG&E and Contractor
Watershed Trails (Mileposts 11 to 14.1) (APM 8.5 in FEIR). In order to reduce the Project's potential to appear visually prominent as seen from the San Francisco Peninsula Watershed public recreation trails, PG&E shall, in consultation with the SFPUC Resource Management staff, install site-specific native tree and/or shrub plantings at key locations between the trails and those proposed replacement structures located in the immediate foreground of views from trails to partially screen views of the Project. Selected plant material shall be appropriate to the Watershed setting and shall conform to the SFPUC Watershed vegetation management policies.	PG&E and Contractor
Views from I-280 (APM 8.6 in FEIR). In consultation with the SFPUC Resource Management staff, PG&E shall install site-specific planting to partially screen views of the proposed replacement structures that would be seen along the skyline in foreground views from I-280. The plant material will be native species appropriate to the Watershed lands and shall conform to the SFPUC Watershed vegetation management policies. The trees shall be placed so as to maximize screening effect and to generally preserve existing open landscape vistas.	PG&E and Contractor
Enhancement of Views from I-280 and Watershed Trails (APM 8.7 in FEIR). In consultation with the SFPUC Resource Management staff, PG&E shall selectively prune trees and shrubs and/or remove trees in order to enhance views and vistas seen from the I-280 corridor and key Watershed recreation trails. Pruning and tree removal implemented under this measure shall be consistent with	PG&E and Contractor

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existing SFPUC Watershed resource management plans and shall conform to SFPUC Watershed vegetation management policies.	
Views from Skyline Boulevard (Mileposts 14.0 to 14.7) (APM 8.8 in FEIR). Informal planting of small trees and/or shrubs shall be installed intermittently as key locations along the west side of Skyline Boulevard in order to partially screen views of the proposed replacement poles. The plantings shall be spaced at sufficient intervals so as to allow intermittent open vistas toward the distant mountains. The plant material will be native species appropriate to the Watershed lands and shall conform to the SFPUC Watershed vegetation management policies. The plantings shall also be consistent with CPUC and PG&E regulatory and technical requirements for landscaping in proximity to transmission lines.	PG&E and Contractor
BIOLOGICAL RESOURCES	
Implement Worker Education (B-1i in FEIR). A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by PG&E and approved by the CPUC prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to, discussion of the Federal and State Endangered Species Acts, the consequences of noncompliance with these acts, identification and values of sensitive plant and wildlife species and significant natural plant community habitats, fire protection measures, hazardous substance spill prevention and containment measures, and review of mitigation requirements.	PG&E and Contractor
Provide Restoration/Compensation for Vegetation Losses (B-1a in FEIR). Where restoration is planned for mitigation of impacts to natural vegetation communities, the Applicant shall prepare and submit an Erosion Control and Revegetation Plan and Wetland Restoration Plan to the CPUC and the U.S. Army Corps of Engineers (for wetlands), the California Department of Fish and Game (CDFG) (for riparian habitat), and the Regional Water Quality Control Board (RWQCB) according to the requirements of any necessary permits.	PG&E and Contractor
<p>*Specifically, as per Condition 4 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005:</p> <ol style="list-style-type: none"> 1. PG&E shall develop and submit a Mitigation Monitoring Plan (MMP) once it identifies a suitable mitigation site, but no later than April 6, 2006. The MMP must provide specific details including, but not limited to, the following: <ul style="list-style-type: none"> • Specific surface area and location of a mitigation site to replace the impacted wetlands • Habitat type, value, and function, that will be created/restored • Native species and densities that will be replanted • Target hydrological regime for the created/restored wetlands (if appropriate) • Implementation, monitoring, and reporting schedules, and 2. Success criteria that would be assessed during monitoring to document the success of the mitigation site and establishment of the created/restored wetland (e.g. percent cover, species survivorship) 	
Perform Pre-construction Surveys and Provide Monitors (B-1d in FEIR). If the approved project route includes areas other than the Proposed Project route, pre-construction surveys shall be performed for certain special status plant and animal species within 200 feet of project construction activities (including structures, access roads, cable pulling sites, letdown sites, and other work areas). <ul style="list-style-type: none"> • Biological monitors, approved by the CPUC, shall locate and stake identified sensitive resources in specified areas before 	PG&E and Contractor

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<p>construction activities begin and inspect areas prior to construction to ensure that barrier fencing, stakes, and required setback buffers are maintained. The CPUC shall be notified prior to the start of flagging activities so a CPUC-designated biologist may observe these activities.</p>	
<p>Complete Rare Plant Surveys (B-1e in FEIR). Prior to construction, comprehensive rare plant surveys shall be conducted in previously unsurveyed areas for all plants that have been identified within the study area and those plants with the potential to occur in the study area (as defined in Tables 4-1 in the FEIR). Surveys shall be conducted within appropriate areas along the selected construction ROW and in areas susceptible to surface disturbance by construction vehicles or personnel.</p>	<p>PG&E and Contractor</p>
<p>B-1f Protect Sensitive Habitats During Construction (B-1f in FEIR). PG&E shall map and flag or fence sensitive resources that are at risk from project activities along overland travel routes and project access areas prior to construction, as approved by the land owner agency and shall ensure that vehicles or project personnel do not disturb identified areas during construction activities.</p>	<p>PG&E and Contractor</p>
<p>Implement Weed Control (B-1g in FEIR; Supplements APM BIO-6 in FEIR). PG&E shall protect against the potential introduction or spread of noxious weeds. The following measures shall be implemented to control the introduction of weed species within areas disturbed during transmission line construction; implementation of these measures during construction shall be verified by the CPUC Environmental Monitor:</p> <ul style="list-style-type: none"> • Vehicles and equipment used in off-road transmission line construction shall be cleaned after being used off-road on a different project and prior to initiating construction for the project in off-road areas with sensitive habitat as determined during the development of weed management and monitoring procedures and enforced by the biological monitor. • Any imported topsoil shall be obtained from a source that can certify the topsoil as being “weed free.” • Vegetation clearing shall be minimized and shall occur only within the minimum footprint necessary for construction. • During construction, the upper 6-12 inches of topsoil (or less depending on existing depth of topsoil) shall be salvaged and replaced wherever the transmission line is trenched through open land (not including graded roads, and road shoulders, and other previously disturbed areas). Areas having a significant weedy component may not be subject to topsoil salvaging requirements as determined by the CPUC-approved biological monitor. • * Disturbed soils shall be revegetated with an appropriate seed mix that does not contain weeds a mixture of custom-collected native grass species appropriate to the area; revegetation in sensitive vegetation types shall adhere to the relevant mitigation measures. • Development and implementation of weed management procedures to monitor and control the spread of weed populations along the ROW. 	<p>PG&E and Contractor</p>
<p>Invasive Species and Sudden Oak Death Control (APM BIO-6 in FEIR). BMPs will include measures to reduce the potential introduction or spread of pathogens, such as sudden oak death. Sudden oak death management protocols are currently being developed for the San Francisco Watershed lands. Coordination with the SFPUC and resource and public agencies regarding sudden oak pathogen management and invasive plant species will be conducted prior to construction.</p>	<p>PG&E and Contractor</p>
<p>Compensate for Tree Loss (B-2a in FEIR). Standards for maintenance, management, and preservation of native and indigenous trees are established in the San Mateo County Heritage Tree Ordinance and the San Mateo County Significant Tree Ordinance. Tree removal permits or approvals for lost heritage or significant trees shall be obtained and mitigation shall be coordinated, as required, with the appropriate public and resource agencies. Mitigation for lost trees may not be implemented within the ROW due to fire safety concerns, and instead may be implemented in an alternative, agency-approved location.</p>	<p>PG&E and Contractor</p>

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<p>*Restoration After Construction (B-3a in FEIR). Restoration activities shall commence immediately after completion of construction, and shall be monitored for five years. In areas where habitat had been disturbed prior to the project (disked areas and dirt roads), a readily available native grass seed mix shall be used all affected habitats will be restored using a mixture of custom-collected native grass species appropriate to the area.</p>	<p>PG&E and Contractor</p>
<p>Wetlands Avoidance and Restoration (APM Bio –7). A jurisdictional delineation of wetlands within the proposed transmission line corridor shall be performed by PG&E and verified by the U.S. Army Corps of Engineers. A report shall be submitted to the CPUC at least 60 days before start of construction. Results of the delineation shall be utilized to define areas that are to be avoided in final tower siting and location of access roads and other project components. Consultation with the NPS will be initiated if wetland impacts are identified. Any impacts will be addressed by obtaining a USACE 404 permit and CDFG 1601 permit, and implementing the requirements of the permits and the Storm Water Pollution Prevention Plan.</p>	<p>PG&E and Contractor</p>
<p>Protect Wildlife During Construction (B-5a in FEIR). In order to reduce direct mortality impacts during construction, PG&E shall impose the following conditions on all construction personnel.</p> <ul style="list-style-type: none"> • Pre-construction surveys for ground-nesting avian species shall be conducted prior to construction in non-urban areas. If nests of ground-nesting species are identified within or near work areas that could be impacted by construction activities, measures to avoid or minimize impacts shall be developed during consultation with the resource agencies and implemented in the project area. These could include a work restriction in some areas during the breeding and fledging season (typically April 1 to August 31). <p>*Tree removal, including brush and scrub removal, will occur outside of bird breeding season, which is typically Mar 1 through August 15</p> <ul style="list-style-type: none"> • Additional mitigation may include establishment of an avoidance buffer (the distance of the buffer shall be developed in consultation with the agencies and shall vary depending on species sensitivity, topography, tree cover, terrain, proximity to roads/highways, etc.); and use of an on-site biological monitor to monitor for signs of disturbance. If the monitor determines that a disturbance is occurring, construction shall be halted, and the agencies shall be contacted as to the measures that shall be implemented. • Vehicles operating within the ROW and on non-public dirt access roads shall not exceed a 10 mph speed limit. Crew compliance will be monitored periodically. • Litter or other debris that may attract animals shall be removed daily from the project area; organic waste shall be stored in enclosed receptacles, removed from the project site daily, and disposed of at a suitable waste facility. • No pets shall be allowed in the construction area, including access roads and staging areas. • Construction crews shall be educated regarding sensitive wildlife that could be encountered on access roads and how to safely avoid them. Crew behavior shall be monitored by a qualified biologist approved by CPUC. <p>*As per Condition 6 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: To the extent practicable, PG&E shall not remove or disturb any native vegetation during construction activities. In species habitat areas, PG&E shall avoid constructing during the species breeding period.</p>	<p>PG&E and Contractor</p>
<p>Prepare Bird Collision Study or Install Flight Diverters (B-7a in FEIR). At least 60 days prior to installation of conductors, PG&E shall either (a) perform a study to determine the potential for bird strikes and then, depending on study results, install bird strike diverters, or (b) install bird strike diverters.</p>	<p>PG&E and Contractor</p>

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<p>Pre-Construction Tree Surveys (APM Bio-1 in FEIR). Standards for maintenance, management, and preservation of native and indigenous trees are established in the San Mateo County Heritage Tree Ordinance and the San Mateo County Significant Tree Ordinance. Tree removal permits or approvals for lost heritage or significant trees will be obtained and mitigation will be coordinated, as required, with the appropriate public and resource agencies. Mitigation for lost trees may not be implemented within the ROW due to fire safety concerns, and instead may be implemented in an alternative, agency-approved location.</p>	<p>PG&E and Contractor</p>
<p>Consultation with Resource Agencies (B-8b in FEIR). PG&E shall initiate ESA section 7 Consultation with the U.S. Fish & Wildlife Service for federally listed species and CESA 2080 Consultation will be initiated with the California Department of Fish and Game for State-listed species. These consultations shall determine requirements for obtaining a (FWS) Biological Opinion and/or (CDFG) Incidental Take Permit. PG&E shall obtain any such required Biological Opinion or Incidental Take Permit and, in that process, shall work cooperatively with the appropriate agency or agencies to develop appropriate mitigation measures to offset impacts to the affected species. PG&E shall thereafter implement all mitigation requirements of the FWS and/or CDFG that result from these consultations and shall provide evidence of implementation to the CPUC.</p>	<p>PG&E and Contractor</p>
<p>Protection for Special Status Wildlife Species (B-8a in FEIR). The actions required below for protection of specific wildlife species shall be clearly defined by PG&E in a Special Status Wildlife Protection Plan provided to the CPUC for review and approval 60 days before the start of construction. The Plan shall define the specific areas in which each species is expected to occur, the results of completed surveys and schedule for completing all pre-construction surveys and seasonal surveys conducted prior to construction, and specific protective measures that will be taken during construction (including but not limited to those defined below). Where construction will occur within or near known or potential special-status species or their habitat, the Applicant shall perform the following actions:</p> <p>California Red-Legged Frog. Specific mitigation measures will be developed in coordination with the USFWS. Mitigation measures may include the construction of temporary exclusion fencing around the construction area combined with regular monitoring. The Applicant shall ensure that a qualified biological monitor is present at construction areas near known or potential habitat, and that BMPs, as included in the SWPPP, shall be implemented during construction to minimize impacts associated with erosion in the proximity of any identified habitat.</p> <p>Raptor Species. PG&E shall avoid disturbance to active raptor nests at all locations. Pre-construction surveys shall be performed in all non-urban areas to identify potential raptor nesting sites within or near the ROW during the breeding season.</p> <p>San Francisco Garter Snake. Mitigation for potential impacts to SFGS shall include:</p> <ul style="list-style-type: none"> -No construction activities shall occur within suitable SFGS breeding sites or SFGS wetland habitats -Consultation with the USFWS and CDFG shall be initiated by PG&E to define specific mitigation for potential impacts to SFGS, which may include: <ul style="list-style-type: none"> • Structure construction (foundation construction and structure replacement activities) between Structures 12/79 and 14/95 shall be done between August 1 and November 1. • If work must be done outside this timeframe, additional mitigation measures could include temporary exclusion fencing and/or biological monitoring as approved by USFWS. • Project activities in potential dispersal and overwintering habitat shall be avoided and/or minimized to the greatest degree possible. 	<p>PG&E and Contractor</p>

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<ul style="list-style-type: none"> Additional trapping and visual surveys was conducted at the following locations during the Spring 2004 activity period (March through May) to determine the type and extent of specific protective measures needed. 	
<p>Construction of Bird-Safe Structures (APM Bio-8 in FEIR). PG&E will construct the new overhead portion of the electric transmission line to ensure that it is bird-safe. The configuration for each structure will meet or exceed APLIC guidelines.</p>	PG&E and Contractor
<p>Raptors (APM Bio-16 in FEIR). Pre-construction surveys for raptors will be conducted prior to the start of construction. If the results of the pre-construction surveys indicate that a nesting raptor is present within or near work areas, mitigation measures will be developed during consultation with resources agencies and one or more of the following measures will be implemented:</p> <ul style="list-style-type: none"> Enforcement of work restrictions, such that construction activities occur outside of the applicable nesting/fledging period (typically March 1 to August 1); Establishment of an avoidance buffer (the distance of the buffer will be developed in consultation with the agencies and will vary depending on species sensitivity, topography, tree cover, terrain, proximity to roads/highways, etc.); and/or Use of an on-site biological monitor to monitor for signs of disturbance. If the monitor determines that a disturbance is occurring, construction will be halted, and one of the above measures will be implemented. If these measures cannot be feasibly accommodated, PG&E will discuss other measures with resource agencies, including potentially obtaining a permit from USFWS to move the nest and/or fledglings. 	PG&E and Contractor
<p>*Protection of Bird Species, as per CDFG consultation, dated August 16, 2005.</p> <ol style="list-style-type: none"> The protocols developed between DFG and PG&E (Nomad Consulting, April 21, 2005) shall continue to be used. Survey activity may be decreased during the winter months, based on a recommendation by the lead ornithologist and confirmed by DFG. If a recent survey (within the last two days) has not been made in a specific work area, the area should be resurveyed before work begins. Prior to working in a specific area, including tree removal or trimming, the work crews will consult with the ornithologists to learn what nests are present. 	PG&E and Contractor
<p>*Mission Blue Butterfly Habitat. During de-conductoring activities at tower 11/75, <i>Lupinus formosus</i> var. <i>formosus</i> will be staked and flagged. Linemen will avoid flagged plants and walk to the tower from the existing paved access road which is located approximately 300 feet east of the tower. Once at the tower linemen will install pulling blocks (travelers) to allow for wire removal. During tower removal, host plants will be staked and flagged. Linemen will avoid flagged plants and walk to the tower. Linemen will disconnect sections of the tower. A helicopter will be used to remove the tower sections and transported off site.</p>	PG&E and Contractor
<p>Erosion Control and Revegetation Plan (APM Bio-5 in FEIR). Following the completion of construction, all affected habitats will be restored using a mixture of custom-collected native grass species appropriate to the area. The Best Management Practices (BMPs) included in the Stormwater Pollution Prevention Plan (SWPPP) will be implemented during construction to minimize impacts associated with erosion. BMPs will include the installation of sediment and erosion control structures to protect biological resources, including streams, as well as roadways and adjacent properties. Watering for dust control during construction will also be employed.</p>	PG&E and Contractor

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<p>*As per Condition 6 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: Upon completion of the project, PG&E shall restore and revegetate the work area and all disturbed soils adjacent to the project site to their natural pre-construction condition.</p>	
<p>*Ground disturbance</p> <ul style="list-style-type: none"> • A biological monitor will be present during 1) pot holing activities, 2) trenching, 3) manhole construction a monitor will be present and 4) foundation work at 11/70A • Silt fencing will be installed on the downhill side (west side) of the access road from the Trousdale Gate down to and around Tower 11/70A foundation, then looping back to the road. Silt fence installation along this segment will include burying the fence up to six inches in depth in areas where there is no asphalt surface and the slope allows. • Vegetation between 11/70A foundation area and roadway will be mowed. A biological monitor should closely inspect the area immediately prior to mowing 	<p>PG&E, Contractor and Biological Technician</p>
<p>*To avoid impacts to maternity roosts of bats, PG&E has committed to employ the following measures:</p> <ol style="list-style-type: none"> 1. Tree removal on the Jefferson-Martin project will occur outside of the maternity season (after August 15 and before May 1). 2. If active maternity roosts are found in trees which will be removed as part of project construction, removal of that tree will be postponed to take place outside of the maternity season (prior to May 1 or after August 15) or after young are volant (flying). If such maternity roosts are found, they will be monitored under the direction of a qualified bat biologist (as determined by a Memorandum of Understanding with CDFG), by using a tree-top camera and performing visual inspections. 	<p>PG&E and Contractor</p>
<p>*Protection of Bat Species, as per CDFG consultation, dated August 16, 2005. Every effort should be made to preserve colonial bat roosts. If not possible, colonies shall be evicted with the least possible harm and that any eviction be mitigated. To accomplish this, DFG made the following recommendations:</p> <ol style="list-style-type: none"> 1. Prior to removal or trimming of any of the 34 trees that could provide roosting space for bat colonies, the trees shall be thoroughly evaluated to determine if a colony is present. Visual inspection, cameras and acoustic surveys may be utilized as initial techniques, but may not be deemed conclusive if negative results are obtained. If no colonies are located by these methods, a secondary survey should be conducted. That survey should consist of the observation of the tree, with night vision equipment, at appropriate times to observe bats leaving the roost (if present). At least two nights of surveys should be done and the surveys should be separated by at least four intervening days. A positive finding removes the need for a subsequent survey. 2. If the tree is not an active roost site, it may be immediately removed. If the tree is not removed or trimmed within four days, the night surveys must be redone. 3. If the tree is an active roost site, DFG should be contacted immediately and the bat species present identified, if possible. Active roost trees may still be removed after consultation, subject to general conditions 4 through 7. 4. The initial step in removing a roost tree is to begin on the first day by removing those branches located above any potential exit cavities or 	<p>PG&E and Contractor</p>

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<p>roost locations.</p> <ol style="list-style-type: none"> 5. On the second day, the tree may be removed, utilizing the avoidance measures outlined in APM Bio-18 noted in the bat report. 6. Mitigation for displacement of an active roost should take the form of monitoring to provide data on where the roost relocates. Monitoring should be accomplished by radio tagging a number of bats from the colony and following them to the new roost site(s). At least ten percent of the bats from each displaced colony should be tagged. If the colony is less than 100 individuals, at least ten bats should be tagged. If the colony is less than ten individuals, tag all the bats. 7. A report should be prepared to document all bat related outcomes related to the project. The report should include the results of the pre-removal surveys, identification of any confirmed colonies, including species, numbers and colony composition (i.e. bachelor roost, maternity roost, etc.), measures taken to avoid impacts, numbers tagged and location(s) to where the colony displaced. A map should be provided showing locations of the original roosts and the location or locations to which each colony relocates. 8. Maternity roosts with pre-volant young will not be disturbed. The project biologist must confirm there are no pre-volant young present before a colony is displaced. It is assumed that colonies displaced after September 1 have no pre-volant young. 9. Removal of any native riparian tree should be preceded by a thorough visual inspection to reduce the risk of impacting foliage roosting bat colonies. 10. Removal of any occupied tree should be mitigated by the creation of three new snags in the Segment 2 reach. This recommendation can be met or partially met by the creation of new snags as described below. 	
<p>*Protection of San Francisco dusky-footed woodrats, as per CDFG consultation, dated August 16, 2005. A total of 65 SFDWR nests have been dismantled to date to accommodate various planned work activities. An additional, unknown number of nests may also need to be removed. DFG recommends the following conditions to guide any future dismantling and to mitigate for the impacts of the already completed activities:</p> <ol style="list-style-type: none"> 1. Dismantling of any SFDWR nests should conform to conditions 1-5 of the Draft MOU for San Francisco Dusky Footed Woodrats (no date, document prepared 7/28/05): 2. A base map of the removal areas (2/3/2005) has been prepared. The map shows the project course, identifies an area of impact and identifies nests removed and remaining. This base map should be supplemented with the following information: <ol style="list-style-type: none"> a. A vegetative and slope aspect overlay which can be used to determine any preferences in nest sites by SFDWR. b. Measurements of the nests on the map. Measurements taken should be the height and diameter at 30 cm. aboveground. c. Descriptions of the area in which each nest is located. The intent of this measure would be to determine if there is a notable preference among woodrats for particular construction conditions. Examples of specific conditions to note are; the presence of dense vegetation, the location of the nest in a tree or shrub and the use of a large limb or other structure as part of the nest. d. A determination as to whether the nest is active or not (note fresh fecal pellets and urine stations). 3. Surveys to add to the data will be conducted in the winters of 2005/2006 and 2006/2007. 	<p>PG&E and Contractor</p>

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<p>4. A final report, including revised maps should be submitted to DFG within 90 days of the final surveys in 2006/2007. The report should be sent to the DFG contact below and to: Dale Steel, Program Manager for Species Conservation and Recovery Program, California Department of Fish and Game, 1416 Ninth Street, Suite 1260, Sacramento, CA 95814.</p>	
<p>*General recommendations for protection of sensitive plant and animal species and habitat, as per CDFG consultation, dated August 16, 2005.</p> <ul style="list-style-type: none"> • Any personnel handling or taking a special status species must have a current Scientific Collecting Permit, issued by DFG for the species in question. • As much downed wood as possible should be left on the ground or incorporated into erosion control measures on site. This recommendation is subject to the requirements of the San Francisco Public Utilities Commission. The intent of this recommendation is twofold; to reduce the amount of disturbance in removing the wood and to allow the material to provide habitat as it gradually decomposes. To that end, larger sections of wood are preferred to be left. At least one large log with limb stubs should be left approximately every 300' along the work corridor. • For those trees over two feet in diameter that are to be removed or trimmed to the point they will likely die, as many as possible should be retained to transform into snags. This recommendation is subject to the requirements of the San Francisco Public Utilities Commission. Girdling the trees in the fall is least likely to result in insect infestation. Snag trees should be left with a significant amount of branches in place and larger trees are generally more desirable as snags. At least one snag every 300' should be provided. 	<p>PG&E and Contractor</p>
<p>*Conservation Measures from FWS biological opinion, dated August 12, 2005.</p> <ol style="list-style-type: none"> 1. A qualified biologist approved by the Service (Service-approved biologist) will train all project staff regarding habitat sensitivity, identification of special status species, and required practices before the start of construction. All employees or contractors must complete this training prior to beginning any project-related work. A qualified biologist is defined as any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the California red-legged frog, San Francisco garter snake, and Mission blue butterfly. The training must include the conservation measures that are being implemented to conserve these species as they relate to the project, the penalties for non-compliance, and the boundaries of the project area. A fact sheet or other supporting materials containing this information will be prepared and distributed. Upon completion of training, employees will sign a form stating that they attend the training and understand all the conservation and protection measures. All employees will display a distinctive sticker on their hard hat to demonstrate that they have attended the training. Training shall be conducted in languages other than English, as appropriate. 2. A Service-approved biologist will monitor all project-related activities along the Segment 2OH route. A Service-approved biologist will monitor all project-related activities at the Jefferson substation until the area has been fenced, after fencing is complete a Service-approved biologist will monitor the substation site at least once per week to insure the fence is in good condition and to insure compliance with conservation measures. At least one Service-approved biologist will be present at each construction location if construction is occurring simultaneously at multiple locations that are separated by greater than 500 feet. In addition, one Service-approved biologist will be present with each tree removal crew. Each crew will be limited to work within a 500 foot corridor. The Service-approved biologist(s) will have the authority to stop and/or redirect project activities to ensure protection of resources and compliance with all environmental 	<p>PG&E, Contractor and FWS-approved biologist</p>

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<p>permits and conditions of the project. The Service-approved biologist(s) will complete a daily log summarizing activities and environmental compliance. PG&E will submit to the Service and CDFG a written summary of project-related activities and environmental compliance at least once per week.</p> <ol style="list-style-type: none">3. During tree removal activities, trees will be felled into areas of lower quality habitat for San Francisco garter snakes and California red-legged frogs whenever possible. A Service-approved biologist will survey these areas immediately prior to felling of trees to ensure that no San Francisco garter snakes or California red-legged frogs are present in the drop zone. All debris associated with tree removal shall be removed the same day if possible under the supervision of a Service-approved biologist. All vehicles associated with tree-removal activities shall be escorted into the work areas by a Service-approved biologist when traveling cross country or when using any unpaved access road. A Service-approved biologist will clear the access roads and other routes prior to removal of logs by the skidder, but will not escort the vehicle. When skidding logs out of the project areas, this activity will be supervised by a Service-approved biologist and the area will be cleared by the Service-approved biologist prior to moving logs. The Service-approved biologist will then move to a safe area away from the skidder. All tree removal will be conducted in such a way as to minimize erosion and changes to drainage patterns.4. All wood chips associated with tree removal will be either 1) broadcast under a closed canopy pine, blackwood acacia, eucalyptus, or cypress forest with no understory (pine needle or leaf substrate) provided that the maximum chip depth is 6 inches or 2) the chips will be hauled off-site to an approved dump site. If chips are to be used for erosion control, then PG&E will contact CDFG for input on appropriate locations to utilize chips for erosion control.5. A Service-approved biologist will stake and flag exclusion zones around all potential California red-legged frog and San Francisco garter snake breeding and aestivation areas and patches of <i>Lupinus</i> (host plant for Mission blue butterflies). Disturbance to these areas will be avoided to the maximum extent practicable. All construction areas will be flagged and all activity will be confined to these areas.6. Prior to movement of construction equipment or other vehicles off of paved access roads, in areas with a high concentration of rodent burrows, near aquatic habitat, and near patches of <i>Lupinus</i>, a Service-approved biologist will ensure that the route does not contain California red-legged frogs, San Francisco garter snakes, Mission blue butterflies, or other sensitive species. Movement of equipment and vehicles shall be supervised by the Service-approved biologist. In addition, at least one Service-approved biologist will be present at each of the two California Department of Transportation (Caltrans) detention basins and at the large perennial wetland located south of existing Tower 13/83 throughout the duration of the project to minimize the potential for traffic related mortality of San Francisco garter snakes and California red-legged frogs. One Caltrans basin is located between Towers 12/80 and 12/81 near the SFPUC access road and the other is located between Towers 12/78 and 12/79 near the SFPUC access road. Traffic will proceed past these detention basins/wetlands under the direction of the Service-approved biologists. These biologists will have the authority to halt traffic for the amount of time they deem appropriate to prevent injury or mortality of California red-legged frogs and San Francisco garter snakes.7. If a California red-legged frog or San Francisco garter snake is observed in a work area (as delineated and marked off by PG&E) or close enough to an active work area that the Service-approved biologist determines that injury or mortality to the species may occur, all project-	
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<p>related activities will stop until a Service-approved biologist who is permitted to handle the species (for San Francisco garter snakes the individual shall have a valid Federal 10(a)(1)(A) recovery permit or be authorized under another individuals' permit) captures and relocates the San Francisco garter snake or California red-legged frog to an appropriate habitat area away from construction activities. Release sites shall be approved by the Service and CDFG prior to beginning construction on the project. The Service and CDFG will be notified immediately if a San Francisco garter snake, California red-legged frog, or Mission blue butterfly is observed within or relocated from a work area.</p> <p>8. The Jefferson substation pad will be completed prior to the rainy season, October 15 (or first rainfall) to May 1. However, some fill of wetlands will occur during the rainy season, October 15 (or first rainfall) to May 1 due to the need to construct two transmission poles, remove one pole, and construct a trench. Prior to any work in the wetlands (during the rainy or dry seasons), the area will be thoroughly surveyed for San Francisco garter snakes and California red-legged frogs by a Service-approved biologist. After surveys, vegetation will be removed with hand tools, including string trimmers. A wildlife exclusion fence (minimum 2.5 feet high and buried to a depth of at least 3 inches) shall be erected around the area of wetlands that will be affected by project activities. After the fence is erected, an additional survey for San Francisco garter snakes and California red-legged frogs will take place. The fence will be removed immediately after completion of construction. A Service-approved biologist will monitor all construction activities that take place at the Jefferson substation from October 15 (or the first rainfall) until May 1 to minimize effects to California red-legged frogs and San Francisco garter snakes. A Service-approved biologist will monitor all construction activities that take place at the Jefferson substation from May 1-October 15 until the surveys have been completed and the exclusion fence erected, after erection of the exclusion fence, the Service-approved biologist shall inspect the site once per week to insure the fence is in good condition.</p> <p>9. All project related vehicles shall enter the watershed lands from the south (Trousdale area) and other designated access points that lead directly to the main paved SFPUC access road. Though currently unanticipated, if limited access is necessary from the north (Sneath Lane substation), then prior to entrance of vehicles in this area, the access road will be inspected by a Service-approved biologist, then immediately will be completely cleared of annual vegetation by workers using string trimmers. Access by vehicles along this route will be limited to only that which is absolutely necessary and a Service-approved biologist will inspect the road immediately prior to vehicle entrance. The Service and CDFG will be notified if access from the Sneath Lane substation area is necessary.</p> <p>10. If the Sneath Lane access road is to be used between October 15 and July 15, the first 300 feet of the access road from the Sneath Lane substation will be lined with gravel and a solid barrier fence will be installed along the edge of the access road where it is adjacent to the marsh at the northern end of San Andreas Lake to prevent San Francisco garter snakes and California red-legged frogs present in the marsh from entering the access road.</p> <p>11. A permanent, solid barrier fence and gate will be installed along the south side of the existing Sneath Lane substation to prevent California red-legged frog and San Francisco garter snake access to the substation site.</p> <p>12. A wildlife exclusion fence (at least 2.5 feet tall) will be erected between the large perennial wetland near new Tower 13/82A and the work</p>	
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<p>site for this tower. This tower location is within 50 feet of the perennial wetland. The wildlife exclusion fence shall be buried to a depth of three inches and/or shall be otherwise anchored to the ground such that there are no gaps between the bottom of the fence and the ground and gates will have a rubber sweep at the bottom to prevent species entry into the exclusion area. In addition, a wildlife exclusion fence meeting the above specifications will be installed around the pull sites near tower 11/70A and tower 14/93, which will be used as staging areas. As the project progresses, PG&E and the Service-approved biologist(s) will be in contact with the Service and CDFG to determine if site specific conditions warrant the installation of a wildlife exclusion fence in other locations.</p> <p>13. A vehicle speed limit of 10 miles per hour will be posted and enforced during construction on all non-public access roads, including all SFPUC roads. Service-approved biologists will periodically check routes to ensure compliance. Construction crews will be given weekly tailboard instruction to travel only on designated and marked existing, cross country, and project-only roads.</p> <p>14. As agreed to by the Service and PG&E for construction of Segment 1 of the Jefferson-Martin transmission line, prior to moving any vehicles or construction equipment that have been parked longer than 20 minutes, a Service-approved biologist shall carefully inspect underneath the vehicle to ensure no San Francisco garter snakes or California red-legged frogs are present.</p> <p>15. Prior to any vegetation removal within the project area, the location of vegetation removal will be thoroughly inspected for San Francisco garter snakes, California red-legged frogs, Mission blue butterflies, and other sensitive species by a Service-approved biologist, then immediately cleared of vegetation.</p> <p>16. All access in the project area will be restricted to those routes identified in the project description. Access will be clearly marked in the field with appropriate flagging and signs.</p> <p>17. All access and construction vehicle parking will be restricted to previously determined areas or existing roads. Necessary vehicles belonging to the Service-approved biologists and construction supervisors will be parked at the nearest point on existing access roads. Carpooling will take place to the maximum extent possible to minimize vehicular traffic into the project area.</p> <p>18. Grading of existing access roads will be done in a manner to minimize disturbance to sensitive habitats and prevent erosion. Grading will be limited to that which is necessary to provide for vehicle access. Temporary access roads will be covered with an erosion control cloth overlain by gravel. Gravel will be removed from temporary access roads after completion of the project.</p> <p>19. Erosion control structures will be installed concurrently with road construction. Erosion control structures will be constructed so runoff will be directed away from sensitive habitats. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material shall be used for erosion control or other purposes at the project site to ensure that California red-legged frogs and/or San Francisco garter snakes are not trapped by the erosion control material. This limitation will be communicated to the contractor through use of Special Provisions included in the bid solicitation package. Coconut coir matting is an acceptable erosion control material. No plastic mono-filament matting shall be used for erosion control. The edge of the material shall be buried in the ground to prevent California red-legged frogs and</p>	
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<p>San Francisco garter snakes from crawling underneath the material. Erosion control measures shall direct water flow into existing drainages or disperse water across vegetated areas in order to avoid concentrating water.</p> <p>20. Soil disturbance will be minimized to the maximum extent practicable when excavating new tower footings. Disturbed soil will be stabilized and erosion control materials installed as necessary.</p> <p>21. Concrete trucks will not dump any overage or wash out on site. To minimize spills, concrete will be delivered as close as possible to proposed tower locations and poured directly into areas excavated for the footings. Should any spillage occur, it will be fully contained until it dries, then removed and transported offsite. Concrete washout stations will be installed near the access gates.</p> <p>22. All vehicles will be brought in cleaned and free of weeds to prevent the spread and/or introduction of invasive plant species. Vehicles will be thoroughly washed before first entering the project area and whenever they have been used off-road in a location outside of the watershed.</p> <p>23. To prevent accidental entrapment of California red-legged frogs or San Francisco garter snakes during construction of the transmission line route and the Jefferson substation expansion, all excavated holes and trenches will be either covered at the end of the work day, ramped, or escape boards will be placed in the trench to allow the animals to escape. Trenches will be inspected each morning and late afternoon by a Service-approved biologist to insure no listed species are present in the trench. Before such trenches are filled, they will be thoroughly inspected for trapped animals. If a California red-legged frog or San Francisco garter snake is trapped in a trench, a Service-approved biologist will immediately relocate it to appropriate habitat outside the project area.</p> <p>24. A litter control program shall be instituted at the entire project site. All workers ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers. The trash containers shall be removed from the project area at the end of each working day.</p> <p>25. A Service-approved biologist shall carefully inspect the shoreline of San Andreas Lake prior to any bank stabilization work. Any rodent burrows that may be destroyed by bank stabilization shall be hand excavated by a Service-approved biologist with a valid Federal 10(a)(1)(A) recovery permit for the San Francisco garter snake or a biologist authorized under the individuals' recovery permit.</p> <p>26. Segment 2OH shall be designed and constructed in such a way that electrocutions of birds and avian collisions with project facilities are minimized to the greatest extent possible. The configuration for each tower and the spacing of conductors will meet or exceed Avian Power Line Interaction Committee (APLIC) guidelines (APLIC, 1996). In addition, PG&E will install bird flight diverters on the 144 fiber optic ground wires associated with the Segment 2OH.</p> <p>27. A Service-approved biologist will monitor any bald eagles present in the action area during project-related activities to determine if these activities are resulting in disturbance to wintering bald eagles. If bald eagles appear to be affected by project related activities, then the</p>	
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<p>Service-approved biologist will contact the Service and CDFG immediately for further guidance.</p> <p>28. PG&E will restore Mission blue butterfly habitat near existing Tower 11/75. After tower removal, the site will be revegetated with appropriate locally collected native vegetation, including <i>Lupinus formosa</i>. The revegetation plan will be submitted to the Service within 60 days of the date of the biological opinion and all revegetation will take place prior to November 1, 2006.</p> <p>29. PG&E, the Service, and CDFG will meet the first week of March 2006, to discuss the status of the project, remaining work, and any additional conservation measures that may be necessary to implement after San Francisco garter snakes emerge from their burrows and become highly active in mid-March to early April.</p> <p>30. All revegetation will take place as described in the <i>Jefferson-Martin Revegetation Plan</i>, dated November 2004. All revegetation will take place within the SFPUC watershed by November 1, 2006. Irrigation will take place as needed if revegetation occurs prior to the rainy season. Monitoring of the revegetated areas will take place for five years and annual reports of the revegetation monitoring will be provided to the Service and CDFG.</p> <p>31. All new sightings of California red-legged frogs, San Francisco garter snakes, Mission blue butterflies, and other special status species will be reported to the Service and the California Natural Diversity Database.</p> <p>32. PG&E will enhance and provide for long-term monitoring and management of the large perennial wetland (former detention basin) on SFPUC property near new Tower 13/82A and the former cattle pond located below the Sweeney Ridge Gateway parcel. The perennial wetland and pond will be managed in a way such as to provide appropriate breeding and foraging habitat for California red-legged frogs and San Francisco garter snakes in perpetuity. PG&E will provide the Service within 60 days of the date of the biological opinion, a monitoring and management plan for both sites that outlines the current hydrology (including an analysis of soil samples), the methodology for the restoration, future management and monitoring needs, and the transfer of the funds necessary to conduct the above activities. An endowment will be established that provides adequate funds to complete the appropriate management and monitoring of this wetland and pond in perpetuity. PG&E will work with an appropriate third-party, approved by the Service, to determine the endowment amount. The endowment will be established within 30 days of the date of Service-approval of the monitoring and management plan. The Service will approve both the endowment holder and the land manager for both the wetland and pond sites. Should restoration and long-term management and monitoring of one or both of these sites not prove possible for any reason, then within 30 calendar days of the date that it is known that the wetland and pond cannot be managed for the San Francisco garter snake and California red-legged frog, PG&E shall present to the Service and CDFG a proposal for the restoration and/or creation of suitable aquatic habitat at an alternative site(s) along with a monitoring and management plan for these site(s) and a proposed endowment amount. PG&E shall work with a Service-approved third-party to determine an appropriate endowment amount. The endowment will be established within 30 days of the date of Service-approval of alternative site(s) and management and monitoring plan for the site(s). The Service will approve both the endowment holder and the land manager for the alternative site(s). The proposal for an alternative site will include the restoration or creation of at least 1.0 acre of aquatic habitat suitable for California red-legged frogs and San Francisco garter snakes. The</p>	
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<p>aquatic habitat shall contain at minimum the following components: 1) a perennial water source, 2) aquatic/shoreline vegetation, 3) free of non-native fish and amphibians, 4) within 1.0 mile of recent documented occurrences of both species and free of major dispersal barriers, 5) contain suitable upland habitat for dispersal and aestivation of both species, including rodent burrows, and 6) be available to be placed under a Service-approved conservation easement.</p>	
<p>*Conditions from USACE Nationwide Permit</p> <ol style="list-style-type: none"> 1. The Corps permit does not authorize take of any endangered species. In order to legally take a listed species, PG&E must have a separate authorization under the Endangered Species Act. The Corps permit is conditional upon compliance with all of the mandatory terms and conditions associated with incidental take authorized in the FWS biological opinion. 2. PG&E will notify the Corps in writing of the anticipated start and stop dates of construction, at least 5 days prior to the initiation of construction. 3. A complete wetland mitigation plan including delineation of the mitigation site shall be submitted to the Corps by November 1, 2005. Once the Corps has approved the mitigation plan in writing, construction of the mitigation wetlands may commence. 4. Construction of the wetlands mitigation site will be completed by July 1, 2006. 5. A performance bond shall be established by November 1, 2005. Prior to establishment, a detailed estimate for the cost of construction, remediation, five years of monitoring and land acquisition of one acre (should lease negotiations with SFPUC fail) will be submitted to the Corps for review and approval by October 1, 2005. 6. PG&E shall supply the Corps with a post-construction report of the impact areas no later than 45 days after conclusion of construction. The report shall document in writing and color photos the state of the site prior to initiation of construction and the condition of the site at the conclusion of construction. 	<p>PG&E</p>
<p>CULTURAL RESOURCES</p>	
<p>Cultural Resources Treatment Plan (CRTP) (C-1b in FEIR). PG&E shall develop a CRTP for Archaeological High-Probability Areas, including procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs), and Archaeological High-Probability Areas, evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detailed reporting requirements by the Project Archaeologist; duration of any cultural materials collected during the Project; and requirements to specify that archaeologists and other discipline specialists meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP). The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction.</p>	<p>PG&E and Contractor</p>
<p>Construction Personnel Training (APM 7.2 in FEIR). All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. PG&E shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials.</p>	<p>PG&E and Contractor</p>
<p>GEOLOGY, SOILS, & PALEONTOLOGY</p>	
<p>Perform Geotechnical Studies (G-1a in FEIR). The Applicant shall perform design-level geotechnical studies to identify areas of soft or loose soils along the alignment where they may affect structure footing excavation stability and/or access roads. Where soft or loose soils are found, Best Management Practices (BMPs) shall be followed for avoidance, improvement, or replacement of affected soil areas. BMPs shall be identified and provided to the CPUC and SFPUC for review and approval at least 60 days before construction.</p>	<p>PG&E and Contractor</p>

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<p>Protect Against Slope Instability (G-2a in FEIR). Appropriate support and protection measures shall be implemented to maintain the stability of excavations and protect surrounding structures and utilities to limit ground deformation. Design-level geotechnical investigations shall be performed to evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures. Appropriate construction methods and procedures, in accordance with State and federal health and safety codes, shall be followed to protect the safety of workers and the public during trenching and excavation operations.</p>	<p>PG&E and Contractor</p>
<p>Consult a Paleontologist (G-3a in FEIR). Prior to construction, a qualified paleontologist shall be consulted regarding the likelihood of encountering significant fossils along specific segments of the approved alignment. If the paleontologist determines fossils may be present, a paleontologic monitor shall be present at each excavation that penetrates undisturbed native soil or rock (not fill or Franciscan rock) that has been identified by the paleontologist as moderately to highly sensitive. Typical samples for microfossils shall be collected and any significant megafossils that are found shall be prepared for curation by the paleontologist and donated to a public museum such as the Museum of Paleontology at the University of California at Berkeley.</p>	<p>PG&E and Contractor</p>
<p>Geotechnical Investigations for Liquefaction and Slope Instability (G-6a in FEIR). Since seismically induced ground failure has the potential to damage or destroy project components, the Applicant shall perform design-level geotechnical investigations to assess the potential for liquefaction, lateral spreading, seismic slope instability, and ground-cracking hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. Appropriate measures could include construction of pile foundations, ground improvement of liquefiable zones, installation of flexible bus connections, and incorporation of slack in underground cables to allow ground deformations without damage to structures.</p>	<p>PG&E and Contractor</p>
<p>Geotechnical Surveys for Landslides (G-7a in FEIR). The Applicant shall perform design-level geotechnical surveys to evaluate the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in the vicinity of other project facilities. Based on these surveys, approved project facilities shall be located away from very steep hillsides, debris-flow source areas, the mouths of steep side hill drainages, and the mouths of canyons that drain steep terrain.</p>	<p>PG&E and Contractor</p>
<p>Minimize Project Structures Within Active Fault Zone (G-8a in FEIR). Any crossing of an active fault (overhead or underground) shall be made as close to perpendicular to the fault as possible to make the segment cross the shortest distance within an active fault zone. For crossings of active faults with overhead transmission lines, the structures shall be placed as far as feasible outside the area of mapped fault traces. For aboveground installations such as transition stations, PG&E shall follow standard design codes for facilities in seismic zones.</p>	<p>PG&E and Contractor</p>
<p>Overhead Transmission Lines (APM 10.2 in FEIR). For overhead transmission lines, site-specific geotechnical investigations will be performed at proposed structure locations to evaluate the potential for fault surface rupture. Where significant potential for fault surface rupture exists, structure locations will be adjusted as possible. Incorporation of standard engineering practices as part of the Project will ensure that people or structures are not exposed to fault rupture hazards.</p>	<p>PG&E and Contractor</p>
<p>Implement Standard Engineering Methods for Problematic Soils (G-9a in FEIR). The Applicant shall perform design-level geotechnical studies to identify areas with potentially problematic soils and develop appropriate design features, including excavation of potentially problematic soils during construction and replacement with engineered backfill, ground-treatment processes, redirection of surface water and drainage away from expansive foundation soils.</p>	<p>PG&E and Contractor</p>

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<p>Implement Standard Engineering Methods for Corrosive Soils (G-11a in FEIR). The Applicant shall perform design-level geotechnical studies to identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems.</p>	<p>PG&E and Contractor</p>
<p>HYDROLOGY & WATER QUALITY</p>	
<p>Erosion and Sedimentation Control (H-1a in FEIR). An Erosion Control and Sediment Transport Plan, Stormwater Pollution Prevention Plan, and Revegetation Plan shall be developed and implemented. These plans shall be reviewed and approved by the SFPUC for those portions of the project within the Peninsula Watershed, for compliance with the Peninsula Watershed Plan prior to initiation of construction.</p>	<p>PG&E and Contractor</p>
<p>Environmental Training and Monitoring Program (APMs 9.2 and 11.1 in FEIR). An environmental training program will be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures and proper BMP implementation, to all field personnel. 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 SWPPP, Erosion Control and Sediment Transport Plan, Health and Safety Plan, and Hazardous Substances Control and Emergency Response Plan. A monitoring program will also be implemented to ensure that the plans are followed throughout the construction period. BMPs, as identified in the Project SWPPP and Erosion Control and Sediment Transport Plan, will also be implemented during the Project to minimize the risk of an accidental release and provide the necessary information for emergency response.</p>	<p>PG&E and Contractor</p>
<p>Hazardous Substance Control and Emergency Response Plan (APMs 9.3 and 11.2 in FEIR). PG&E will prepare a Hazardous Substance Control and Emergency Response Plan that will include preparations for quick and safe cleanup of accidental spills. This plan will be submitted with the grading-permit application. It will prescribe hazardous-materials handling procedures to reduce the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle-maintenance activities and storage of hazardous materials, if any, will be permitted. These directions and requirements will also be reiterated in the Project SWPPP. Care shall be exercised to minimize, contain and properly dispose of paint flakes generated during removal and dismantling of equipment or tubular steel poles coated with lead-based paint. Poles shall be dismantled on paved surfaces or protective sheeting on soil areas to facilitate collection of the paint flakes.</p>	<p>PG&E and Contractor</p>
<p>Flood Damage Prevention (H-4a in FEIR). Aboveground project features such as power poles, substations, and transfer stations shall be placed outside the flow path of watercourses unless an engineering analysis, reviewed and approved by the California Public Utilities Commission and San Francisco Public Utilities Commission (for areas within the Peninsula Watershed), demonstrates that watercourse avoidance is not practicable, and that appropriate measures, such as installation of bank protection or raising foundations above flood levels, have been taken to identify and prevent potential flooding and erosion hazards.</p>	<p>PG&E and Contractor</p>
<p>Phase II Soil Sampling/Waste and Groundwater Characterization (APMs 9.5, 11.4, 11.5 in FEIR). Soil sampling and potholing will be conducted before construction begins, and soil information will be provided to construction crews to inform them about soil conditions and potential hazards. If hazardous substances are unexpectedly encountered during trenching, work will be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of hazardous materials is required, they will be handled in accordance with applicable regulations.</p>	<p>PG&E and Contractor</p>

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<p>Prior to initiating excavation activities at structure locations and along the underground transmission-line routes, soil borings will be advanced to identify areas where contaminated groundwater may be contacted. The location, distribution, or frequency of such tests will give adequate representation of the conditions in the construction area. If suspected contaminated groundwater is encountered in the depths of the proposed construction areas, samples will be collected and submitted for laboratory analysis of petroleum hydrocarbons, metals, volatile organic compounds, and semi-volatile organic compounds. If necessary, groundwater will be collected during construction, contained, and disposed of in accordance with all applicable regulations. Appropriate personal protective equipment will be used and waste management will be performed in accordance with applicable regulations.</p>	
<p>*As per Condition 1 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: PG&E shall comply with all term and conditions of the Corp’s Clean Water Act Section 404 permit, DF& G’s Streambed Alteration Agreement, and any permits or approvals of other agencies.</p>	<p>PG&E and Contractor</p>
<p>*As per Condition 2 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: PG&E shall keep construction equipment outside of San Andreas Lake and other water bodies to minimize impacts to waters of the State.</p>	<p>PG&E and Contractor</p>
<p>*As per Condition 3 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: PG&E shall implement appropriate best management practices to control excess erosion and sedimentation during construction activities and contain and, if deemed necessary, treat groundwater from trenches and dewatering systems to meet water quality standards before discharged into storm drains or waterways.</p>	<p>PG&E and Contractor</p>
<p>*As per Condition 5 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: PG&E shall remove all debris, concrete remains, and construction materials from the project site, and dispose of them offsite.</p>	<p>PG&E and Contractor</p>
<p>*As per Condition 8 of the RWQCB Conditional Water Quality Certification issued on April 19, 2005: With the exception of the proposed activities, any other unauthorized discharge or other creation of a potential for discharge of any materials into the waters of the State is prohibited.</p>	<p>PG&E and Contractor</p>
<p>PUBLIC HEALTH & SAFETY</p>	
<p>Conduct Phase II Investigation (HAZ-2a). A Phase II investigation shall be conducted for the project prior to commencement of construction activities. The investigation shall include a review of current status from agency files of listed contaminated sites presented in the summary tables for each alignment or substation. This review shall include the concentration and limits of contamination, type of release, and media affected. Soil sampling and laboratory testing shall be conducted at locations along the project route where known contaminated sites are within 0.25 miles of the alignment or are determined to pose a threat to the project based on the results of agency file review. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject area. Areas with contaminated soil and/or groundwater determined to be hazardous waste shall be removed by personnel who have been trained through the OSHA recommended 40-hour safety program (29CFR1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and off-site transport or on-site treatment. Results of the agency file review and Phase II investigations shall be reviewed and approved by the San Mateo County’s Environmental Health Division and/or DTSC prior to construction.</p>	<p>PG&E and Contractor</p>

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<p>Hazardous Substance Control and Emergency Response Plan (APMs 9.3 and 11.2 in FEIR). PG&E will prepare a Hazardous Substance Control and Emergency Response Plan, which will include preparations for quick and safe cleanup of accidental spills. It will prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted.</p>	<p>PG&E</p>
<p>RECREATIONAL EXPERIENCE</p>	
<p>Avoidance of Peak Use Periods and On-Site Notification (R-2a in FEIR). PG&E shall not schedule construction during peak use periods, (i.e., weekends and holidays) for recreational facilities. In addition, PG&E shall provide onsite notification of recreational access closures at least two weeks in advance, through the posting of signs and/or notices at all public entrances.</p>	<p>PG&E and Contractor</p>
<p>Public Information Program (APM 5.2 in FEIR). A public-liaison representative will provide the public with advance notification of construction activities. Concerns related to dust, noise, odor, and access restrictions associated with construction activities will be addressed within this program.</p>	<p>PG&E</p>
<p>Coordinate Activities Affecting Parklands Trail Systems (APM 5.4 in FEIR). All construction activities, including temporary trail closures, affecting the parklands and trail systems of the Peninsula Watershed Lands will be coordinated, respectively, with the SFPUC and San Mateo County Parks and Recreation Department at least 30 days before construction begins in these areas.</p>	<p>PG&E and Contractor</p>
<p>Signs Directing Vehicles to Alternative Park Access (APM 5.5 in FEIR). Signs directing vehicles to alternative park access and parking will be posted in the event construction temporarily obstructs parking areas near trailheads.</p>	<p>PG&E and Contractor</p>
<p>Coordination with Parks (APM 5.6 in FEIR). PG&E will coordinate with city/county officials with jurisdiction over local parks near the route at least 30 days prior to construction.</p>	<p>PG&E</p>
<p>Signs Advising Recreation Users of Alternative Trails or Bikeways (APM 5.7 in FEIR). Signs advising recreation users of construction activities and directing them to alternative trails or bikeways will be posted on both sides of all trail intersections or as determined through PG&E coordination with the respective jurisdictional agencies.</p>	<p>PG&E and Contractor</p>
<p>Helicopter Notification (APM 5.8 in FEIR). Where helicopters are used for construction, signage advising equestrians of construction timeframes with helicopter use will be posted at all equestrian trail-access points within the vicinity of the flight paths. These signs will be checked and maintained daily.</p>	<p>PG&E and Contractor</p>
<p>Visual Impact Minimization (V-1a in FEIR) Reduce visibility of construction activities and equipment.</p>	<p>PG&E and Contractor</p>
<p>Provide Public Liaison Person and Toll-Free Information Hotline (L-4b in FEIR). PG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. (APM Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure L-4a in FEIR that requires construction notification in papers). PG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures shall be submitted to the CPUC for review and approval prior to construction.</p>	<p>PG&E</p>

MITIGATION MEASURES INCLUDED AS PART OF THE SELECTED ALTERNATIVE

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AIR QUALITY	
Control Dust Emissions (A-1a, APMs 14.1 and 14.2 in FEIR) All personnel working on the Project will be trained prior to starting construction on methods for minimizing air-quality impacts during construction. BAAQMD Control Measures for Construction Emissions of PM ₁₀ will be implemented.	PG&E and Contractor
<p>Control Exhaust Emissions (A-2a in FEIR) The following measures shall be implemented during construction:</p> <ul style="list-style-type: none"> • Construction workers shall carpool when possible. • Vehicle idling time shall be minimized (i.e., 5-minute maximum). • Alternatively fueled construction equipment shall be used where feasible. • Equipment shall be properly tuned and maintained. <p>PG&E shall document compliance with this measure by developing and implementing an exhaust emission reduction plan. The plan shall document the approach for ensuring carpooling, use of alternatively fueled vehicles, and shall define how and where records of equipment tuning and maintenance will be kept for CPUC review during construction.</p>	PG&E and Contractor
NOISE	
<p>Mandatory mitigation measures for noise impacts include:</p> <ul style="list-style-type: none"> • Install portable barriers to shield compressors and other small stationary equipment where necessary. • Use of “quiet” equipment (i.e., equipment designed with noise-control elements). • Route truck traffic away from noise-sensitive areas, where feasible. • Install sound barriers for pile driving activity, where practicable (e.g., use an acoustic curtain or blanket around the point of impact). • Limit pickup trucks and other small equipment to an idling time of 5 minutes, observe a common-sense approach to vehicle use, and encourage workers to shut off vehicle engines whenever possible. (Note: larger vehicles, such as large diesel vehicles, require extended warm-up times after startup. Some equipment will remain running when required for repetitive tasks or to power other equipment). 	PG&E and Contractor
TRANSPORTATION & TRAFFIC	
Prepare Transportation Management Plans (T-1a in FEIR). Prior to the start of construction, PG&E shall submit Traffic Management Plans (TMPs) to all agencies with jurisdiction of public roads that would be affected by overhead and underground construction activities as part of the required traffic encroachment permits. TMPs shall define the locations of all roads that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter, hauling of oversized loads by truck, and due to conductor stringing activities.	PG&E and Contractor
Restrict Lane Closures (T-1b in FEIR). PG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays.	PG&E and Contractor
Ensure Emergency Response Access (T-6a in FEIR). PG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all	PG&E and Contractor

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<p>times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers.</p>	
<p>Pedestrian Facility Provisions (APM 13.8 in FEIR). Where construction will result in temporary closures of sidewalks and other pedestrian facilities, PG&E will provide temporary pedestrian access, through detours or safe areas along the construction zone. Any affected pedestrian facilities and the alternative facilities or detours that will be provided will be identified in the TMP. Where construction activity will result in bike lane closures, appropriate detours and signs will be provided.</p>	<p>PG&E and Contractor</p>
<p>Mitigation Measure to Repair Damaged Roads. If damage to roads occurs as part of construction of the Overhead Route, PG&E will coordinate repairs with the SFPUC to ensure that impacts are adequately repaired.</p>	<p>PG&E and Contractor</p>