

ENVIRONMENTAL CHECKLIST

1.	Project Title:	PG&E Corona Substation (Application Number: A 97-10-037)
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2.	Lead Agency Name and Address:	California Public Utilities Commission 505 Van Ness Avenue, Fourth Floor San Francisco, CA 94102-3298
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3.	Contact Person and Phone Number:	John Boccio (415) 703-2641
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4.	Project Location:	City of Petaluma (see Figure 1)
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5.	Project Sponsor's Name and Address:	Pacific Gas and Electric Company P.O. Box 7442 San Francisco, CA 94120
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6.	General Plan Designation:	Public and Institutional	7.	Zoning:	Light Industrial
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8.	Description of Project:
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Purpose and Need

Pacific Gas and Electric Company (PG&E) is proposing to build a 115 kV substation, referred to as the Corona Substation and associated power tap line, in Petaluma, California. Petaluma is in southern Sonoma County. The purpose of the substation is to reduce the voltage of electricity carried on the 115 kV Lakeville-Santa Rosa Power Line to 12 kV in order to supply the local electricity distribution system that delivers power to users nearby. PG&E has stated that the proposed substation is required to meet the electrical load growth occurring in the Petaluma area, and to ensure that PG&E can adequately and reliably supply the area's future demand for electrical energy.

PG&E provides electrical power services in the area of Sonoma County, encompassing the City of Petaluma, the community of Penngrove, and unincorporated areas to the west. To

provide power to these areas, PG&E currently operates three substations, referred to as Petaluma A, Petaluma C, and Lakeville Substations.

In the last few years, PG&E has recorded a steady increase in demand for electricity in this area. Growth in electricity demand tends to follow growth in economic activity. The Petaluma area has been experiencing the economic growth characteristic of many Bay Area communities, caused by the recent growth in the northern California economy. While growth in the Petaluma area has been due primarily to increased population and housing, there has also been increased commercial and industrial growth in the northern portion of Petaluma as a result of greater economic activity within the City. This trend is forecasted to continue, although at a lower rate than experienced in the late 1980s (PG&E, 1997).

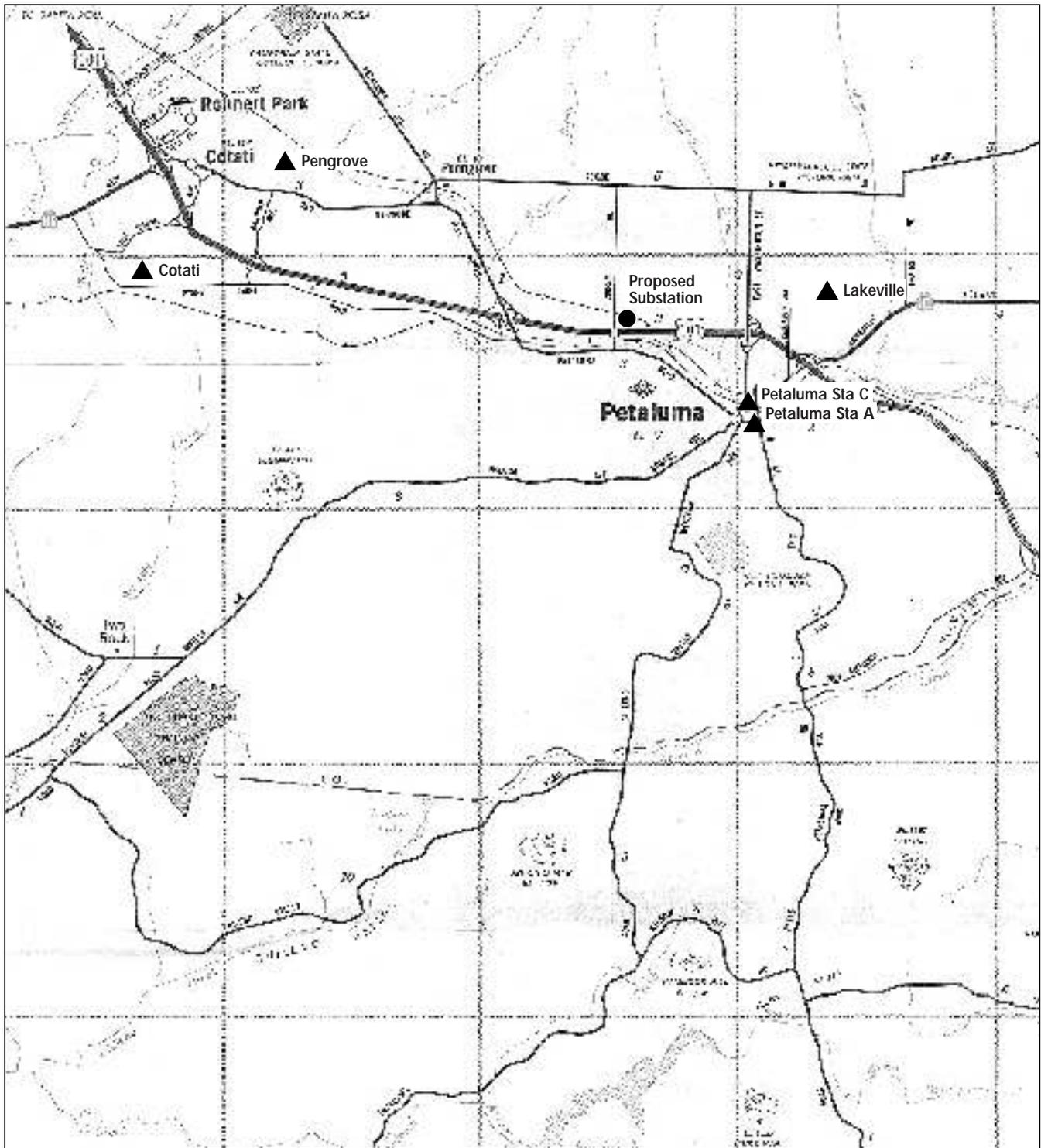
PG&E has stated that the expected electrical load growth is the sole reason for installation of the Corona Substation. Currently, PG&E has been able to supply electric power by load transfers from PG&E's Petaluma A, Petaluma C, Lakeville, and Cotati Substations. PG&E projects that its ability to provide load transfers from those substations to accommodate the expected growth in the northern portion of Petaluma will be exhausted by the summer of 1998 (PG&E, 1997).

Project Description

Location. PG&E's proposed Corona Substation project would be located within its existing Petaluma Service Center at 210 Corona Road in the City of Petaluma. The Service Center occupies 3.87 acres, and the proposed substation would occupy 0.55 acres of that site (see Figure 1). The proposed substation area is located in the existing flat and paved area near the center of the Service Center.

The general site vicinity is defined to the north by Corona Road, to the east by North McDowell Road, to the west by Highway 101, and to the south by Michael Drive. Surrounding immediately adjacent land uses to the Service Center include the Youngstown Mobile Home Park to the south and west sides of the Service Center, the Park's storage area for recreational vehicles to the north side, and a light industrial parcel with residential, commercial, and industrial uses to the east side (see Figure 1). The Service Center fronts on the south side of Corona Road, although it is set back 60 feet from the road. The north side of the road is vacant land, undergoing development as a light industrial use. The only access to the Service Center is from Corona Road.

Routine activities and facilities at the Service Center include a customer payment center, vehicle maintenance facility, employee offices, warehouse for gas and electric equipment, and vehicle and construction equipment yard. The Service Center also is a staging and



LEGEND

- Existing substations
- ▲ Proposed substation

— Corona Substation / 980016 ■

Figure 1
Regional Location Map



SOURCE: California State Automobile Association, PG&E

storage area for equipment and supplies during normal and emergency operating conditions. A chain link fence with redwood slats surrounds the Service Center.

Proposed Facilities. The project consists of four elements: (A) a proposed substation within the Service Center site; (B) a 115 kV connector power line; (C) eight underground distribution lines; and (D) perimeter fencing and landscaping improvements and landscaping along Corona Road (PG&E, 1997, 1998a, 1998b).

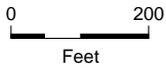
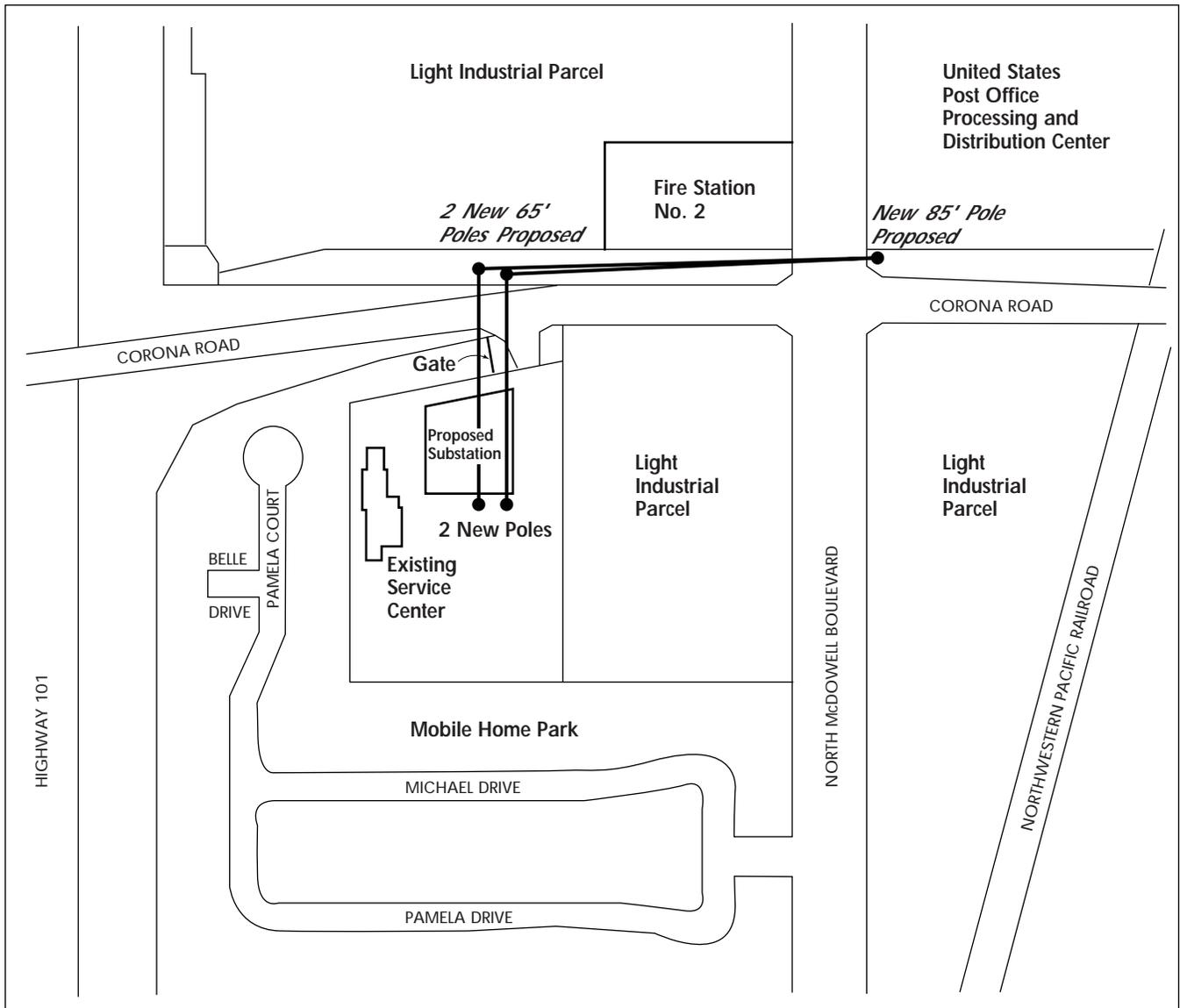
- (A) Substation. The proposed substation at full build out (see Figure 2) is planned to be a remote-controlled, two transformer bank, low profile facility occupying an area of approximately 0.55 acre in the north-central part of the Service Center. The substation is designed as a “bantam substation,” the term to describe a “compact design” in which equipment spacing is compacted to fit within a smaller area than equipment in a conventional substation. The transformation of voltage would be accomplished through the use of transformer banks, breakers, switches, and related electrical equipment.

Two 115/12 kV 30 MegaVolt Ampere (MVA) transformers would be installed at full build-out of the substation. Only one transformer bank would be installed in 1998. Based on current load projections, PG&E anticipates that the second transformer bank would be installed around the year 2002. The schedule for the second transformer bank could be accelerated or delayed depending on the demand for electricity related to future growth in the Petaluma area.

The substation design includes ancillary equipment, a Spill Prevention Containment and Countermeasure (SPCC) pond to collect and contain potential discharges of spilled mineral oil within the equipment, and a gravel-surfaced buffer area (3,500 square feet) surrounding the transformer banks. Two tubular steel clearance poles to support the tap line would be constructed within the Service Center adjacent to the southerly substation fence.

An eight-foot-high chain link fence would be constructed around the perimeter of the site. Lighting fixtures would be installed at the northerly and southerly doors of each of the two metal clad switchgear. The lights would be manually operated and directed downward. A pole-mounted double light fixture located near the southwesterly corner of the proposed substation might be relocated outside the substation fence.

- (B) Connector Power Line. The connector loop line would tap into the 115kV Lakeville-Santa Rosa power line at North McDowell Boulevard and carry current to/from the substation. The 115 kV power tap line would trend along the north side of Corona Road (between the road shoulder and the drainage ditch). The looped three-wire



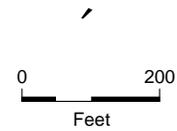
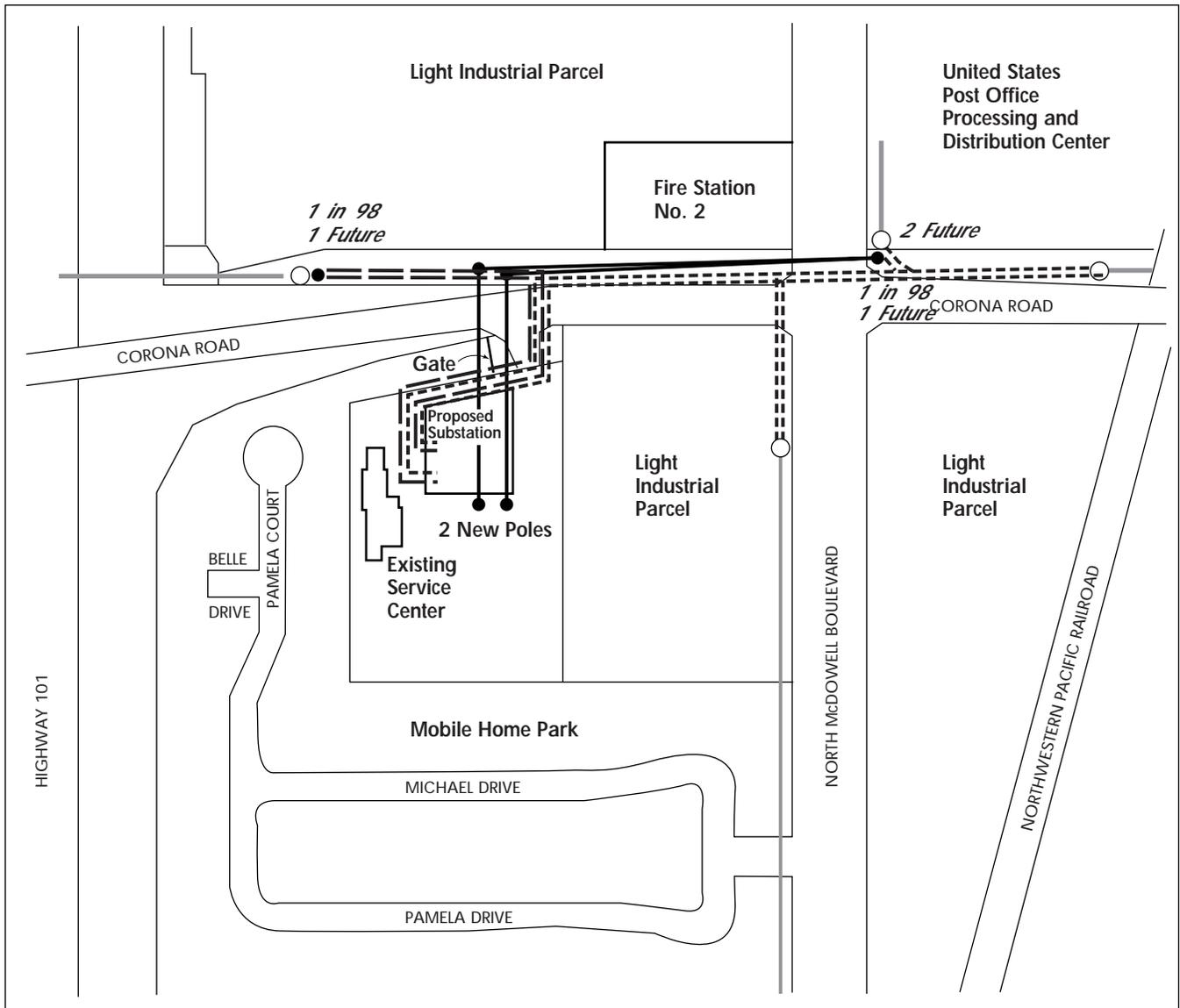
circuit would be carried by a tubular steel pole, 60-feet high, located on the north side of Corona Road opposite the substation. The two conductors would extend a total distance of 630 feet along the road, merging to a single 75-foot-high tubular steel pole located at the northeast corner of the intersection of Corona Road and North McDowell Boulevard. The three-way 75-foot tubular steel pole would be constructed adjacent to the existing wood pole supporting both the Lakeville-Santa Rosa 115 kV power line and a distribution circuit. This wood pole would remain. The tubular steel poles would be installed on 36-inch diameter concrete foundations.

The proposed loop configuration from the Lakeville-Santa Rosa power line to the substation would allow electricity to be provided to the substation from either of two different sources of power in the event of a failure of the Lakeville-Santa Rosa power line north or south of the interconnection point with the tap line.

- (C) Distribution Lines. The project includes eight 12 kV distribution lines, which would be placed underground. Initially, only two of the distribution lines would be constructed (Figure 3). Additional underground circuits would be added as electricity demand grows in the future. The distribution lines would be constructed across and then along the north side of Corona Road to both the east and the west, and along the southern edge of Corona Road to the east. Three existing wood pole distribution lines on the north side of Corona Road would be removed when the underground 12 kV lines are constructed. In addition, two existing wood service poles on the south side of Corona Road east of the Service Center would be removed. An existing wooden pole on the north side of Corona Road (northwest of the Service Center) and adjacent to the Highway 101 overpass would be modified, increased in height to serve as a transition between existing overhead and proposed underground distribution lines.

As part of the project, to accommodate the proposed loop tap line, an existing wood-pole-supported distribution line would be removed. The distribution line would be placed underground, as noted above.

- (D) Landscaping. PG&E (PG&E 1998b) has proposed a conceptual landscaping plan (Figure 4) that includes five general elements, as follows:
1. Evergreen and large canopy trees would be planted around the perimeter of the substation and Service Center. Small flowering trees, shrubs, and groundcover would be planted at the entrance road to the substation and Service Center at Corona Road and in the newly designed employee and customer parking areas.



LEGEND

- Existing overhead Distribution
- Existing pole
- Proposed riser at existing pole
- - - Proposed double conduits (2 circuits per conduit)

Figure 3
Underground Distribution Lines

2. Redwood trees and riparian species trees would be planted with an ornamental groundcover along the north side of Corona Road extending westerly of the Service Center entrance drive to the Highway 101 overpass and easterly to North McDowell Road. The trees would be limited in height to 15 feet in the eastern section of this landscaped areas because of the proposed overhead 115 kV power line. Riparian tree species and native grasses would be selected to be compatible with the drainage ditch located to the immediate north of the roadway. PG&E would improve the existing drainage ditch to convert it to an urban creek to carry runoff from Corona Road. Upon completion of the landscaping installation, PG&E would dedicate the creek improvements and Corona Road landscaping to the City. PG&E proposes to water the plantings for three years, after which time the species are anticipated to be self-sustaining and require no further watering.
3. Redwood trees with an understory of native grass would be planted along the southern side of Corona Road westerly of the entrance drive to the Highway 101 right-of-way. Upon completion of the landscaping installation, PG&E would dedicate the landscaping improvements along Corona Road to the City. PG&E proposes to water the plantings for three years, after which time the species are anticipated to be self-sustaining and require no further watering.
4. Five to seven existing redwoods along the south side of Corona Road (at the north side of the Service Center) would be removed. In addition, several eucalyptus trees along the north side of Corona Road would be removed. Removal of these trees would eliminate the hazards associated with tall trees growing under the proposed alignment of the 115 kV power line. Where trees are removed, they would be replaced with trees that have an appropriate canopy height at maturity, as noted above.
5. PG&E proposes to construct a six-foot wood fence between the Service Center and the Youngstown Mobile Home Park along properties adjoining the southern and western boundaries of the Service Center. The new fence would replace an existing three-foot deteriorating fence. PG&E also proposes to plant screening vegetation along the proposed perimeter fence (species to be determined). PG&E would construct an irrigation system to irrigate the trees and/or shrubs along the proposed fence. Upon completion of the fence and installation of the landscaping and irrigation system, PG&E would dedicate the installations to the Youngstown Mobile Home Park. Maintenance would be the responsibility of the owners of Youngstown Mobile Home Park.

PG&E proposes to submit the landscaping plan to the City of Petaluma Site Plan and Architectural Review Committee (SPARC) for review and approval. Specific plant species and maintenance conditions would be developed with SPARC's approval.

Construction. Development of the site for the substation would take four months and involve the following phases:

Phase Development

1. Site improvements would be undertaken, including removal of paving, regrading, and resurfacing of the proposed 0.55-acre site within the Service Center. Trenching for the underground distribution feeders and other underground facilities, including the ground grid and ducts for substation wiring and telecommunications lines, and construction of the SPCC pond would occur. Foundations would be poured for the electrical substation equipment and for tubular steel poles. The substation fence would be constructed. Trees under the 115 kV connector power line alignment would also be removed.

As the site has already been graded in the past, the current construction would require minor regrading of the surficial soils and resurfacing to establish proper drainage patterns and drainage channels. The transformer pad would be built on approximately one foot of engineered fill to establish proper elevation so that the pond drains correctly in the event of an oil spill. A cut would be required for the SPCC pond (20 feet wide by 25 feet long and 3 1/2 feet deep). Soil excavated from the drainage troughs and minor resurfacing would be used for the transformer pad fill, avoiding the exporting of spoil. Soil and gravel/crushed rock would be imported to create a raised transformer pad and cover the substation equipment yard area. Approximately 550 cubic yards of soil and gravel/crushed rock would be imported. The service road would be constructed with two inches of asphaltic concrete over four inches of rock base material. The standard method of 95 percent compaction would be used for engineering the fill.

2. Mechanical equipment for the substation would be installed, including installation of the first transformer bank, bus structure, and switchgear. Tubular steel single poles would be installed with replacement of wood poles with tubular steel poles. The existing overhead distribution lines would be put underground at this time. The SPCC pond would be constructed.
3. Line/substation testing, conversion, and energizing of the substation would occur, including testing and conversion to new lines. Construction clean-up would also occur, and landscaping would be installed. The areas where trees were removed would be replanted with appropriate species and irrigation systems installed.

All construction equipment, vehicles, personnel and staging areas would be accommodated within the fenced portion of the proposed substation site. Access to the substation would be from the existing easement across the neighboring mobile home park property.

Construction is scheduled to begin about 30 days after CPUC approval of the Permit to Construct, and would require approximately four months to complete.

Electrical service interruptions to customers in the area not expected by PG&E during the construction of the substation and 115kV connector loop line. Brief interruptions (for up to four hours) for up to about 10 customers will occur for replacement of the pole-supported distribution line with an underground distribution line. Those customers will receive advance notification (48 hours) of the interruption in service.

After completion of Phase 3, the substation would be operational. The substation would be unmanned, with most functions monitored and operated remotely. PG&E substation technicians would inspect the equipment and conduct maintenance for the substation and power lines regularly, generally expected to occur several times a month. Other current activities of the Service Center would continue without change. The project would not require additional staff at the Service Center.

Phase 4 would include the future construction of additional underground distribution lines and the future addition of the second transformer bank.

9.	Surrounding Land Uses and Setting:
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The proposed site is bordered by mobile home residences in the Youngstown Mobile Home Park to the south and west, the Park's parking area for recreational vehicles to the north, and residential, commercial, and industrial uses to the east (see Figure 1).

10.	Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement)
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Pursuant to State Law, the California Public Utilities Commission (CPUC) is the permitting authority for the project.

A grading permit and encroachment permits for construction in City streets would be secured from the City of Petaluma.

The proposed landscaping plan would receive approval of the SPARC.

Trees planted within Caltrans right of way along Highway 101 would require a permit from Caltrans.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- | | | |
|---|--|--|
| <input type="checkbox"/> Land Use and Planning | <input checked="" type="checkbox"/> Transportation/Circulation | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Utilities and Service Systems |
| <input type="checkbox"/> Geological Problems | <input type="checkbox"/> Energy and Mineral Resources | <input checked="" type="checkbox"/> Aesthetics |
| <input checked="" type="checkbox"/> Water | <input type="checkbox"/> Hazards | <input type="checkbox"/> Cultural Resources |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Recreation |
| | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a “potentially significant impact” or “potentially significant unless mitigated.” An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.



Natalie Walsh, Program Manager
Analysis Branch
Energy Division
California Public Utilities Commission

Date

I. LAND USE AND PLANNING

Would the proposal:		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Conflict with general plan designation or zoning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Be incompatible with existing land uses in the vicinity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The proposed substation would be located on the site of PG&E’s existing Petaluma Service Center. The City of Petaluma *General Plan* identifies the Service Center as a “Public and Institutional” use. This same designation applies for the Fire Station and the U.S. Post Office Processing and Distribution Center on the north side of Corona Road. The land use immediately east and north of the Service Center is designated “Industrial”. Three residential parcels are located within the industrial zone of the area immediately east of the Service Center. The land use designation to the immediate west and south of the Service Center is “Urban Diversified”.

The City of Petaluma zoning maps identify the Service Center as “Light Industrial” and the areas immediately to the north of Corona Road and east of the Service Center as a “Light Industrial, Flood Plain Combining District” (M-L FPC). The areas immediately south and west are designated “Garden Apartments” (R-M-G). The Youngstown Mobile Home Park is located within the R-M-G zoning designation.

The proposed project would not conflict with either the *General Plan* land use or zoning designations. The Public and Institutional category identified in the City of Petaluma’s *General Plan* is specifically intended for “public utility substations; and institutional,

academic, governmental, and community service use and lands.” The project would be compatible with land use designations. The M-L designation in the zoning ordinance is intended for light and specialized industrial uses “of a non-nuisance type regulated by performance standards.” A Conditional Use Permit can be granted for the establishment or expansion of “quasi-public uses appropriate to the M-L District”; however, the zoning district does not specify public utility substations as a conditional use (PG&E, 1997). Although City of Petaluma zoning does not specify public utilities as a conditional use, it should be noted that municipalities do not have jurisdiction or regulatory control on utility siting; therefore a conditional use permit from the City is not required. “The design, construction, and maintenance of substation, power line and power line facilities are subject to the sole authority and exclusive jurisdiction of the CPUC and are therefore the discretionary action is considered outside the jurisdiction of a city.

A flood control channel is located on the north side of Corona Road. The proposed power line would not conflict with storm drainage uses because the line would be designed to ensure clearance for channel maintenance. In addition, the project would be compatible with City of Petaluma *General Plan* programs and policies relating to the integration of new utility easements into the open space network because landscaping proposed by PG&E would enhance the visual quality of Corona Road and the drainage channel (PG&E, 1998b). Landscaping within the Service Center parking areas also would be consistent with City policy (PG&E, 1998b).

- b) Please see the response to item I.a., above. PG&E proposes to maintain minimum clearance standards between the conductors and tree limbs and branches. For this reason, five to seven existing coastal redwood trees and several eucalyptus trees may be removed on Corona Road. PG&E proposes that all removed trees would be “replaced with trees of appropriate canopy height and structure compatible with PG&E’s operational and maintenance requirements for the 115kV power lines and the City of Petaluma street trees design goals” (PG&E, 1997). Replacement trees would be selected based on canopy height at maturity, the amount of irrigation and maintenance requirements, wind tolerance, and aesthetic characteristics.

The project site is within the boundaries of the Flood Plain-Combining District (FP-C). A “development permit” obtained from the City would allow the construction of an aboveground public utility, such as a substation, within this District. The conditions of the permit include the use of construction standards, materials, and methods minimizing flood damage; for example, enclosed structures must be elevated 12 inches or more above base level flood elevation. The substation is designed to withstand flood damage well above the 12-inch level, and would remain functional if flood waters rose to a height of several feet. No additional design or construction measures are necessary to ensure operation and maintenance of the substation during flooding (PG&E, 1998a). Because project construction would not create additional impervious surface and flooding frequency is not

expected to increase, flooding of the site would not present any land use compatibility issue for surrounding residences. Therefore, this impact is considered to be less than significant.

- c) As identified in the Preliminary Environmental Assessment (PEA), the substation site is located within the Service Center south of Corona Road. Uses immediately adjacent (within 500 feet) of the site include (PG&E, 1997):
- Approximately 40 of the mobile homes in the Youngstown Mobile Home Park located on Pamela Court behind the Service Center and on Michael Drive southeast of the project site;
 - The City's Fire Station (1001 North McDowell Boulevard), located at the western corner of Corona Road and North McDowell Boulevard, adjacent to the proposed power line that would be located along the north side of Corona Road;
 - The U.S. Post Office North Bay Processing and Distribution Center (1150 North McDowell Boulevard), located on the northeast corner of Corona Road and North McDowell Boulevard (the parking lot is the only part of the facility located adjacent to any of the proposed project components);
 - Two residences located on the light industrial parcel immediately east of the proposed site at 230 and 276 Corona Road, approximately 160 feet and 220 feet from the location of the proposed substation;
 - A third residence located on the same light industrial parcel at 965 North McDowell Boulevard, approximately 420 feet from the proposed project;
 - An automobile repair shop located on the southwest corner of Corona Road and North McDowell Boulevard; and
 - One residence located at 320 Corona Road, 270 feet east of the location of the proposed pole on the northern corner of Corona Road and North McDowell Boulevard.

The project would not conflict significantly with the existing residential uses in the Youngstown Mobile Home Park because of the separation distance between the substation and the residences and mitigation that would result from proposed fencing and landscaping. The northeastern portion of the Young property (on the north side of the site) consists of recreational vehicle parking and garbage collection. Because of the dimensions of this area, development setback requirements, and conditions of the Youngstown Use Permit, permitted future uses in this area would remain the same as existing uses (PG&E, 1998). The proposed power line right of way is compatible with existing and future uses of this portion of the Young Property.

The project would not be incompatible with any other adjacent land uses listed above because current uses and operation of these homes and facilities would not be significantly

affected in the long-term. The project, if implemented, would not induce a change in the immediately surrounding lands or land uses along the tap line.

Project construction would temporarily increase noise and air pollutant emissions, which could be a nuisance factor for nearby residents. Noise and air quality impacts and mitigation measures are identified in Sections V and X (Air Quality and Noise, respectively) Because construction activities would not have a long-term impact on adjacent uses, this impact is considered less than significant.

- d) The project site is located on the existing PG&E Service Center site. The surrounding area is urbanized, consisting of residential and industrial uses (identified above). Adjacent open space (former agricultural land) across Corona Road already is under development in urban uses and would not be affected by the project. There are no agricultural resources within or immediately adjacent to the project site. Therefore, the project would not affect agricultural resources or operations.
- e) The proposed substation would be constructed at an existing PG&E Service Center site and the power tap line would be constructed mostly along Corona Road. No residences or businesses would have to be removed for the project. The project would not permanently impede access to any adjacent parcels. Because the substation would be built within existing property boundaries and the new poles would be constructed within a Light Industrial District, the project would not disrupt or divide the physical arrangement of an established community.

II. POPULATION AND HOUSING

Would the proposal:		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Cumulatively exceed official regional or local population projections?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Displace existing housing, especially affordable housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The project is not a land use that would directly increase population within the community, such as by adding housing units. The project is designed to accommodate projected growth in Sonoma County, including the City of Petaluma and the community of Penngrove, by providing additional electrical power to a system where the existing electrical capacity will not meet projected needs in the near future. No new public or private projects are anticipated to be directly initiated as a result of construction and operation of the substation. Therefore, no impact would occur because the project would not exceed existing population projections or induce substantial growth in an area.
- b) See section II.a, above. No impact.
- c) No housing units are located on the project site. No houses would have to be moved or removed for the project. While the project may be regarded as unaesthetic by residents of nearby houses and mobile homes, it would not likely indirectly cause those residences to be sold or abandoned. Therefore, the project would have no impact on existing houses.

III. GEOLOGIC PROBLEMS

Would the proposal result in or expose people to potential impacts involving:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fault rupture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Seismic ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Seiche, tsunami, or volcanic hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Landslides or mudflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Erosion, changes in topography, or unstable soil conditions from excavation, grading, or fill?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Subsidence of the land?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expansive soils?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Unique geologic or physical features?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The project site is located in the Petaluma Valley approximately 1,000 feet east of the Petaluma River. The site is underlain by unconsolidated fluvial deposits of generally

fine but variable grain size composed mainly of fine sand, silt, and silty clay. Previous test borings at the site encountered 2 to 2 _ feet of asphalt pavement, base rock and fill consisting of sandy clay, clayey sand, and silty sand with cobbles (PG&E, 1998). Below the fill, a layer of stiff silty clay with lenses of silty sand was encountered to a depth of 15 feet. This is underlain by a layer of medium dense to dense silty sand with clay lenses to a depth of 21 feet. A sand and gravel layer with 10% to 15% fines was encountered between 21 and 26 feet. The sand and gravel was underlain by silty clay and sandy clay to the depths of the borings. Groundwater was encountered at a depth of 5 to 7 feet.

- a) Surface rupture is a seismic hazard that can adversely affect structures or other improvements located on the surface traces of active faults. The California Department of Conservation Division of Mines and Geology (DMG) has evaluated active and potentially active faults in the State as required by the Alquist-Priolo Earthquake Fault Zoning Act. DMG has established hazard management zones, called Alquist-Priolo Earthquake Fault Zones (APEFZ's), to regulate development within active fault zones. (Active faults are defined as those with surface displacement within Holocene time, or approximately within the last 11,000 years.) The Act requires that no structure for human occupancy be permitted on an active fault. Geologic investigations are required for most structures for human occupancy within APEFZ's to evaluate surface rupture potential.

There are two APEFZ's within southern Sonoma County: the Rodgers Creek Fault, approximately 4.7 miles northeast of the site, and the San Andreas Fault, approximately 15 miles southwest of the site. The Tolay Fault was previously designated within an APEFZ, but was removed in 1983 (City of Petaluma, 1995). The site is not within an APEFZ. According to the DMG (1994), there are no known or suspected active faults nearer to the site or projecting toward the site. The potential for concealed bedrock faults (e.g., an undetected low angle thrust fault) that could result in surface fault rupture is considered to be low at the site, and thus the hazards to people and the proposed facilities caused by fault rupture are considered to be a less-than-significant impact.

- b) The site is within an area of high seismic activity. Several major faults extend through the region with the potential of generating damaging earthquakes of as much as 7.0 or more. Table 1 presents a list of active and potentially active faults within the region. There is a potential that the site will be subject to moderate to strong seismic ground shaking one or more times during the life of the project. The nearest significant earthquake epicenter to the site was the 1969 Santa Rosa earthquake series on the Healdsburg-Rodgers Creek fault (magnitude 5.6 - 5.7). Other large magnitude historic earthquakes have occurred on the San Andreas fault and the Hayward fault.

Damage to substations was a primary cause for loss of power in recent earthquakes such as the Loma Prieta Earthquake and Northridge Earthquake. The site is within Seismic Zone 4 (highest hazard) of the 1994 Uniform Building Code (UBC). Damage to substation facilities from groundshaking may not be entirely mitigable, however, compliance with the UBC for design and construction of the substation would reduce ground shaking effects on the facility to levels of acceptable risk and, therefore, result in a less-than-significant impact from ground shaking.

Groundshaking, and in some project areas liquefaction, could result in damage to power lines. The conductor wires are strung with sufficient length and catenary (sag) to accommodate vibratory motions and tensions set up by ground motions in earthquakes or high winds. In other words, it is considered a remote hazard that the power lines would “snap” because of earthquake groundshaking. On the other hand, earthquake induced vibratory motions in power lines have resulted in “wrapping” of the lines in which the separate conductor lines come into physical contact with each other. For example, wrapping was recorded as an effect of the 1989 Loma Prieta Earthquake. Wrapping is a potentially hazardous situation because the “hot wires” come into contact, although it would not likely cause the lines to break and fall. PG&E’s design and spacing requirements would be expected to be in conformance with requirements and industry standards for conductor separation.

The primary potential cause of failure of power lines would result from the failure of one or more of the poles supporting the conductors. Tubular steel poles are structurally extremely strong and able to resist earthquake induced vibratory motions (or high winds) without failure, as evidenced by their performance in the Loma Prieta Earthquake, the 1994 Northridge Earthquake, and other earthquakes. Bending or breaking of the poles would be a remote hazard. The hazard would be greatest from the tipping of a pole caused by liquefaction or lateral movement of the ground (see following discussion). For this area, the ground dislocations from liquefaction would be minor and within the amount that could be well accommodated by the pole and its foundation design. Because PG&E would employ construction measures for installation of poles and stringing of conductors that meet accepted design standards, the hazards related to groundshaking, while not entirely avoidable, would not constitute an unacceptable level of risk; therefore, the impact is deemed to be less than significant.

- c) Strong earthquakes can cause secondary seismically-induced ground failures including liquefaction, lateral spreading, ground lurching, and densification settlement. Liquefaction is a phenomenon in which loose, saturated, granular soils suddenly lose shear strength due to earthquake-induced shaking and a rapid rise in pore water pressure. Liquefaction can result in bearing failures and settlement. Lateral spreading is horizontal displacement of weak soils or fill triggered by strong earthquake shaking. Lateral spreading most commonly occurs when weak,

saturated soils are bordered by a steep embankment or slope. Ground lurching occurs as earthquake-triggered horizontal movements on relatively steep embankments or slopes result in the cracking of the ground surface.

The site is underlain by a saturated sand and gravel layer at a depth of 21 to 26 feet that is potentially subject to liquefaction. This deposit is capped by stiff, cohesive soils, and it is likely that liquefaction-induced settlements would be small and within tolerable levels for the substation facilities. Project design using PG&E standard designs in accordance with CPUC General Order 95 would incorporate measures to consider potential liquefaction settlement and effects on structures (PG&E, 1998). Such measures would reduce the effects of potential liquefaction to levels of acceptable risk and result in a less than significant impact.

**TABLE III-1
KNOWN ACTIVE AND POTENTIALLY ACTIVE FAULTS IN PROJECT VICINITY**

Fault	Study Area Distance from Fault (km)	Maximum Credible Earthquake (1)	Maximum Estimated Bedrock Acceleration (g) (2)
Rodgers Creek	5	7.0	0.38
San Andreas	15	8.0	0.31
Hayward	22	7.5	0.18
Green Valley	25	7.0	0.11
Palo Colorado/ San Gregorio	26	7.7	0.18
Concord	32	6.7	0.07
Coast Range/ Sierran Block	35	8.0	0.17
Antioch	44	6.7	0.05
Calaveras	48	7.5	0.08
Greenville	50	7.3	0.07

Note: Distance shown is approximate, as measured from each end of the study area.

(1). Blake, 1995

(2). Average of Idriss (1994) and Campbell and Bozorgnia (1994)

The site is on a relatively flat slope (very gently sloping) and is approximately 1,000 feet away from the Petaluma River Channel, which is the nearest significant embankment to the site. The potential for lateral spreading and ground lurching is

considered to be low due to the relatively large distance to the channel embankment. The test borings did not encounter loose, unsaturated sands subject to densification. The potential for lateral spreading, ground lurching, and densification is considered to be less than significant.

- d) Earthquakes can cause tsunamis (tidal waves) and seiches (oscillating waves in enclosed bodies of water). The site is not near an ocean or a large enclosed body of water. The site is also not within a region subject to active volcanic activity. The site is not located within an area subject to inundation from an upstream dam failure. Therefore, there would be no impact on the project from tsunamis, seiches, dam failure or volcanic activity.
- e) The site is nearly level and is not located near a slope subject to landslides or mudflows. The proposed construction would not affect slope stability on or adjacent to the site. The potential for landslides or mudflows is minimal; therefore, there would be no potential for an impact.
- f) The project will include minor grading to raise the grade from about 18 inches at the north end of the site to essentially no change in elevation at the south end. Settlement is anticipated to be minor at the site, provided that the grading be performed in accordance with common geotechnical engineering practice, including compaction of engineered fill and compliance with applicable building codes and ASTM standards. The proposed topographic changes and the potential for unstable conditions from proposed grading activities are considered to be less than significant.

Grading and construction activities would disturb site soils. The soils may be subject to erosion from rainfall and stormwater runoff during periods of precipitation. Because the site is nearly level, construction activities are not likely to result in heavy erosion, gulying, or sedimentation, and are not considered to be a significant hazard.

- g) The proposed structures are relatively light, and the foundations will gain support from relatively stiff native soils or compacted fill. Test borings carried out for PG&E at the site did not encounter soft, compressible soils subject to consolidation and settlement at the site. The project will not include withdrawal of ground water. The potential for subsidence and settlement is considered to be low and would result in a less-than-significant impact.
- h) Native soils at the site were judged to be moderately to moderately-highly expansive by PG&E. Expansive soils can damage foundations, damage underground facilities, cause power line poles to lean out of plumb, and damage

pavement. The impact is potentially significant, but can be entirely mitigated. PG&E design of the foundations, in accordance with G.O. 95, would reduce the effect to less than significant.

- i) The project area is essentially flat and has no unusual or unique geological features; therefore, there would be no impacts related to unique geologic or physical features.

IV. WATER

Would the proposal result in:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of people or property to water-related hazards such as flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen, or turbidity)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Changes in the amount of surface water in any water body?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Changes in currents, or the course or direction of water movements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations, or through substantial loss of groundwater recharge capability?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Altered direction or rate of flow of groundwater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Impacts to groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Substantial reduction in the amount of groundwater otherwise available for public water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The project site is located on approximately 3.87 acres, much of it is currently paved with asphalt. Currently, drainage at the site occurs as sheetflow runoff, draining along a gentle gradient to the southwest portion of the site. Construction of the substation will require removal of some of the pavement and replacing the pavement with a crushed rock surface. This will tend to increase the net infiltration rate at the site and will result in a slightly smaller amount of surface runoff. The site development will not significantly alter drainage patterns and will result in a less than significant impact.
- b) The site is within the 100-year floodplain of the Petaluma River (Zone AO) (FEMA, 1989) and is subject to an estimated two feet of inundation during the 100-year flood (PG&E, 1997). The project does not include walled and roofed buildings intended for human occupancy, nor does the project include gas or liquid storage tanks. The facilities will be supported on concrete slabs that will extend 6 to 8 inches above grade. These slabs may be inundated during the 100 year flood. The switchgear will be supported on a raised slab above the inundation level so that the substation will remain operational during potential inundation (PG&E, 1998a). The exposure of people and property to potential flood hazards is considered to be a less than significant impact.
- c) The transformers will contain up to 16,000 gallons of mineral oil coolant. The project includes construction of a pond designed to contain 100 percent of the maximum spill volume. The pond design, maintenance, and inspection requirements would be in accordance with Environmental Protection Agency Code of Federal Regulations Spill Prevention Control and Countermeasures. Use of these measures would result in a less-than-significant impact.

In addition to potential transformer spills, there could be discharges of pollutants and sediment during construction. Potential pollutants include fuels, brake fluids, coolants, and lubricants from construction equipment. Sediments could potentially be discharged from erosion of disturbed soils. The erosion potential is considered to be small because the site is nearly flat, however, loosened soil could become entrained in runoff and discharged off-site. Construction of the connector line poles and installation of landscaping would occur adjacent to a flood drainage structure along the north side of Corona Road and silt and pollutants could be directed into that channel. The impact is potentially significant, but mitigable to a less than significant level.

Mitigation

The following mitigation measure would reduce the potential impact of surface water discharge to a less-than-significant level.

Mitigation Measure IV.c.1. If construction is scheduled during the rainy season, PG&E shall employ best construction management practices to prevent discharges of silt and other substances from construction into storm drains. PG&E shall develop and implement a plan to control excavated soils and runoff, specifying practices such as the use of detention basins, straw bales, silt fences or other deterrents, and site clean-up procedures and practices to minimize contact of construction materials with stormwater. PG&E shall file a copy of the plan with the CPUC and shall certify compliance with this measure in progress reports to the CPUC.

- d) There are no water bodies on the site. The project includes construction of a facility to pond and contain runoff from the substation area in the event of a transformer spill. This feature would contain water only temporarily after storms. There would not be any significant change in the amount of water in any water body.
- e) There are no water courses on the site. The project would not impact the flow of natural drainage courses. The project includes landscaping to convert the drainage channel on the northern side of Corona Road to an urban drainage facility. The proposed riparian vegetation plantings would not impede the functions of the drainage channel.
- f) Groundwater is encountered at a depth of 5 to 7 feet at the site (PG&E, 1998). The project would not require removal of groundwater, either during construction or operation. The City of Petaluma will supply water. The project will include removal of some impervious pavement, which could cause a very small increase in infiltration. The effect of the project on groundwater is considered to be negligible.
- g) The project will not significantly affect groundwater conditions at the site. There are no deep excavations planned that would intercept groundwater. Trenches greater than 5 feet deep may intercept groundwater; however, the effect on groundwater flow is considered to be negligible.
- h) The compacted fills, clayey surface soils, and impervious surfaces will prevent significant infiltration of contaminants. The project includes construction of a facility to pond and contain potential transformer spills of mineral oils. The pond facility will be lined to prevent contaminant infiltration. The effect of the project on groundwater quality is considered to be less than significant.
- i) The proposed project would not use groundwater and would have no effect on local groundwater use.

V. AIR QUALITY

Would the proposal:		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Expose sensitive receptors to pollutants?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Alter air movement, moisture, or temperature, or cause any change in climate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Create objectionable odors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Construction activities for the project would temporarily increase particulate concentrations in and around the project site. The site has been previously graded so that it is essentially flat. Construction equipment and vehicles would generate dust during clearing and excavation. Construction vehicle traffic on unpaved surfaces would generate dust, as would wind blowing over exposed earth and road pavements with deposits of mud and silt tracked by vehicles.

It is typically not possible to accurately estimate the particulate concentrations that would occur at or adjacent to the construction site because such concentrations are very sensitive to local meteorology and topography and to variations in soil, silt, and moisture content. Construction is expected to begin in autumn, which is generally the time of year when soil has its lowest moisture content; however, the local clay-like adobe soil seldom dries out except for the very top layer. At the site, the local soil surface layer is made up of some gravel and fill, and the clay-like adobe mixed with this material tends to act as a binder of these materials, too. Additionally, the first rains of the season are typically received by mid- to late October, after which time the potential for any substantial particulate generation drops off. Regardless of the soil or season, dust generation can occur at any time during earthmoving related construction activities, including during the rainy season. However, the characteristics of local soils should assist in minimizing particulate generation, and thus construction activities are not expected to be a significant generator of particulate material.

The Bay Area Air Quality Management District (BAAQMD) considers construction emissions to be significant only if project-appropriate mitigation measures are not implemented. Dust is comprised of large particles (i.e., larger than 10 microns in diameter) which settle out rapidly on nearby horizontal surfaces and are easily filtered by human breathing passages. Much of the dust generated by construction is, therefore, of concern more as a soiling nuisance rather than for its unhealthful impacts. The remaining fraction of small particulates (under 10 micron diameter, referred to as PM-10), tend to remain suspended in the air and could have the potential to violate the state 24-hour average PM-10 standard in the vicinity of construction. Unless mitigation measures are implemented, elevated levels of PM-10 could occur throughout periods of project construction. Surrounding the site to the south and west is the Youngstown Mobile Home Park, to the north is the park's storage area for recreational vehicles, and to the east is a light industrial parcel with residential, commercial, and industrial uses. Because the residences located within the mobile home park are located immediately adjacent to the project site, mitigation measures for construction impacts would be necessary.

The substation site is part of the Petaluma Service Center and includes a customer payment center, vehicle maintenance facility, employee offices, warehouse for gas and electric equipment, and a vehicle and construction equipment yard. The Service Center also serves as a staging and storage area for equipment and supplies during normal and emergency operating conditions. The proposed substation at full build-out is planned to be a remote-controlled facility requiring maintenance inspections only once a month. Operation of the proposed substation and maintenance of the connector line would not result in a significant increase in vehicle trips to the facility over and above those for the existing facility. Thus, no net air quality impact would result from the normal operation of the proposed substation.

The proposed project would allow for the delivery of electricity that would otherwise not be transmitted. Approximately 40 percent of California's electricity is generated by fossil fuels, the combustion of which results in air pollutant emissions at power plants. Consequently, fossil-fueled power plants within California would increase production to deliver the electricity demand facilitated by the proposed substation. However, these emissions could be generated from any or all of the air districts within California, or even from out-of-state generation sources. The environmental impact of air emissions from the individual power plants would be assessed at the time of power plant construction or permit issuance by the local air district. It is assumed that all power plants, whether new or existing, would operate within air emission caps created by the local air districts. The project itself would not induce demand for generation of additional electricity.

Mitigation

The following mitigation measure would reduce the potential impact of dust generation to a less-than-significant level:

Mitigation Measure V.a-1: PG&E shall require its construction contractors or crews to implement a dust abatement program during construction activities. The dust abatement program should include the following (as adapted from BAAQMD):

- Water exposed soils at all active construction sites at least twice daily on days without measurable rainfall at the site;
- Cover all trucks hauling soil, sand, and other loose materials *or* require all trucks to maintain at least two feet of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites; and
- Sweep daily (with water sweepers) Corona Road, the paved access road to the substation site, and paved parking and staging areas at the substation site. Sweep each paved street area used to drill foundation holes and pour foundations for power line towers.

PG&E shall certify compliance with this measure in scheduled progress reports to the CPUC.

- b) As discussed in the response to item V.a, above, construction dust emissions could have a temporary impact on nearby residences. Residences occupied by very young children or the infirm could be considered sensitive receptors. However, the impact to these residences would likely be a nuisance impact of larger particle dust settling and not an impact related to a violation of PM-10 standards. Existing trees may intercept some of the dust before reaching some residences, although this could not be quantified. With implementation of the above-cited mitigation measure V.a-1, this impact would be less than significant.
- c) The proposed substation would not be a source of thermal emissions and would not represent the type of operation that could cause alteration of air movement, moisture, or temperature, or cause any change in climate. Therefore, there would be no impacts related to climate change.
- d) The proposed substation is not the type of operation identified by the BAAQMD as a typical odor source (BAAQMD, 1996). The project would not result in an odor-related impact.

VI. TRANSPORTATION / CIRCULATION

Would the proposal result in:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increased vehicle trips or traffic congestion?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Insufficient parking capacity on site or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Hazards or barriers for pedestrians or bicyclists?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Rail, waterborne, or air traffic impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) There are no long-term traffic impacts (i.e., increase in traffic or congestion) for Corona Road or North McDowell Boulevard. Only several operations and maintenance trips are expected per month, as the proposed substation would be controlled remotely. Traffic would increase only during project construction. An average of up to 12 workers (over duration of construction), and fewer than ten trips of slowing-moving construction vehicles per day would arrive and leave the site.

During project construction, road and lane closure would be necessary temporarily along Corona Road and North McDowell Boulevard. The closure of both roads for the stringing of the 115 kV lines would require about a maximum of one hour and PG&E has proposed to close roads only during non-commute hours. The installation of the new pole on the northeast corner of Corona and North McDowell Boulevard may require lane closure; reduction in traffic lanes would be limited to one day during construction of the project. Such temporary closures and reduction in lanes would be scheduled during times of reduced traffic flows and coordinated with the City of Petaluma (PG&E, 1997).

The existing level of service (LOS) for Corona Road and North McDowell Boulevard is described as LOS B and LOS C, respectively (PG&E, 1997). LOS B is described in the City of Petaluma *General Plan* as “Stable flow. Some slight reduction in maneuverability and speed. Slight delay.” LOS C is described as “Stable flow or operation with higher volumes. More restrictions on maneuverability and speed.” PG&E proposes that temporary closures and reduction in lanes would be scheduled during times of reduced traffic flows and coordinated with the City of Petaluma. A detailed traffic plan, subject to the approval of the City of Petaluma, would be developed by the construction crew during the construction phase.

The presence of slower moving vehicles compounded with lane and road closures during the construction period could render impacts to traffic flow potentially significant. However, because construction activities are temporary (four months) and because PG&E has proposed that road and lane closures would be limited to short durations during periods of off-peak traffic, this impact is considered less than significant. Additional mitigation is not required.

- b) There are no proposed roadway modifications to Corona Road at the entrance of the Service Center or to the adjacent entrance road. No impact related to traffic safety hazards from design features would occur.

As mentioned in VI.a, construction related vehicle trips would average less than ten trips per day. These slow moving vehicles would transport construction materials such as soil, gravel/crushed rock, and concrete. While turning movements of trucks create some hazards, it is unlikely that these trucks would introduce substantial safety hazards. Good sight lines are present in the construction area along Corona Road and North McDowell Boulevard. The impact with respect to hazards is therefore considered less than significant.

- c) Beyond new landscaping, the entrance to the Service Center would not be modified, thus no change in emergency access to the substation site would result. Access to the City’s Fire Station (1001 North McDowell Boulevard) would not be affected by the long term operation of the substation or the presence of the power lines. Because of the proximity of the Fire Station, Corona Road is an important access route for fire trucks and emergency response vehicles. During construction activities, temporary lane and road closures would be necessary as discussed in VI.a, above. This could impair ingress and egress to the fire station as well as delay the travel time of emergency response were such to be required at a time coincident with lane closures during construction. Construction activities in roadways would be subject to the standard procedural and safety measures in the Work Area Protection and Traffic Control Manual, which provides guidance for construction work in street right-of-ways. Implementation of these standard construction practices (maintenance of steel trench plates and proper signage) and notification of planned activities to Fire

Department officials and the City of Petaluma would be required to ensure that access for emergency traffic is maintained. The potentially significant impacts to emergency access would be reduced to a less-than-significant level.

The following measure, along with those proposed by PG&E as part of the project in its application, and in the Work Area Protection and Traffic Control Manual would reduce the potential impact of inadequate emergency access to a less-than-significant level.

Mitigation

The following mitigation measures would reduce the potential impact to a less than significant level:

Mitigation Measure VI.c-1: PG&E shall notify Fire Station officials and the City of Petaluma at least one week prior to project construction of any planned lane closures and days and times when access to the fire station may be impaired; this would allow the Fire Department to plan for potential delays, move trucks out of the fire station temporarily for better access, or undertake other measures.

- d) The substation would not generate parking demand because the substation will be operated remotely without onsite staff. Project construction would require little parking for workers, and this could be accommodated within the Service Center. Therefore, impact with respect to parking demand is less than significant.
- e) No modifications to the existing road configuration are proposed. The sidewalks on Corona Road easterly of the Service Center could be disturbed temporarily during construction. Pedestrian traffic is light in this area. Construction activity could interfere with bicycle travel along Corona Road. Bicycle traffic is light in this area during the times of day when construction would be occurring. The proposed landscaping plan does not include sidewalks or bicycle lanes. However, long term operation of the project would not induce any hazards or barriers for bicyclists. If requested by the SPARC for inclusion in the landscaping plan, there probably would be sufficient space to incorporate these into the design layout along either side of Corona Road. Therefore, impact with respect to pedestrian and bicyclist safety is less than significant.

Mitigation (Recommended)

The following mitigation measure is suggested for consideration. The potential impact is less than significant and so mitigation is not required.

Recommended Mitigation Measure VI.e-1: If requested by the SPARC, PG&E should consider including in the landscaping plan sidewalks and a bicycle lane on one or both sides of Corona Road.

- f) The project site would not create a demand for site visits. No change in public access to the existing Service Center would result from the project. No conflict with transportation policies would occur; therefore, impact to transportation policies is considered less than significant.
- g) No rail, waterborne, or air traffic is located near the project site. The substation project would have no effect on these modes of transportation.

VII. BIOLOGICAL RESOURCES

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Locally designated species (e.g., heritage trees)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Wetland habitat (e.g., marsh, riparian and vernal pool)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Wildlife dispersal or migration corridors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The proposed substation site is covered with asphalt and provides few habitat values even for common wildlife species. Along Corona Road, the surrounding grasslands to the north and east were mowed and disked, respectively, and support ruderal vegetation typical of highly disturbed environments. Neither special status plant and wildlife species nor their habitats occur within 250 feet of the project site, and therefore no impact would occur.
- b) Approximately seven of the twenty-five coastal redwood trees located on the northern perimeter of the substation site, and up to six eucalyptus trees on the southern border of the site, would be removed. Replacement plantings would include a combination consistent with the City of Petaluma list of approved street trees. These trees are not considered locally or regionally significant, and their loss would not be significant.

- c) There are no locally designated natural communities in or near the project area; therefore, no impact would occur.
- d) No wetland habitat occurs at the project site or could be potentially impacted by the proposed project; therefore, no impact would occur. No direct impacts to the drainage canal along the north side of Corona Road would occur. Deposition of silt in the canal may occur during construction through runoff (see Section IV. Water). The proposed planting of riparian vegetation and native grasslands along the drainage channel north of Corona Road would result in a net beneficial impact.
- e) The substation site is within the Service Center that is fenced and covered with asphalt, and does not function as a wildlife dispersal or migration corridor. The proposed project would not impact any off-site wildlife dispersal or migration corridors. Proposed landscaping along Corona Road would provide a slightly, but not significantly, improved habitat area for wildlife.

VIII. ENERGY AND MINERAL RESOURCES

Would the proposal:		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Use non-renewable resources in a wasteful and inefficient manner?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The project is not energy consumptive. Minor amounts of fuel would be required for construction. The project would have no conflict with energy conservation policies and no impact would occur.
- b) The project would use a variety of widely available non-renewable materials for construction of the facilities, including aggregate, asphalt, iron and related minerals used in manufacturing steel, mineral oil, and fuel to power construction vehicles and equipment. Long-term operation would require only a minor amount of fuel for site inspection

vehicles. Proposed construction and operation of the facility would not involve the wasteful use of non-renewable resources; no impact would occur.

- c) The site has no known mineral, oil, gas, geothermal, or aggregate resources. The project would not affect the availability of these resources; no impact would occur.

IX. HAZARDS

Would the proposal involve:		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	A risk of accidental explosion or release of hazardous substances (including but not limited to oil, pesticides, chemicals or radiation)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Possible interference with an emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	The creation of any health hazard or potential health hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Exposure of people to existing sources of potential health hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Increased fire hazard in areas with flammable brush, grass, or trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The operation of the proposed Corona Substation would use several hazardous substances. One 115/12 kV, 30-MVA transformer would contain up to 6,500 gallons of mineral oil, which is used as an insulating medium and coolant. The mineral oil is a highly refined hydrocarbon base oil, but it would not contain Polychlorinated Biphenyls (PCBs). To prevent the release of mineral oil in the event of damage to the transformer, PG&E proposes that the transformer would be mounted on a sealed pad with drainage directed to a SPCC pond area that could hold 110% of the volume of oil from one transformer. A weir system with a manually operated gate valve would retain any oil in the SPCC pond when water is present in the pond for collection and disposal at an approved site. Environmental Protection Agency regulations require that the equipment and spill containment area be inspected at least monthly. During heavy storm periods, more frequent monitoring of the transformers and the SPCC pond would be conducted to prevent overflows of the pond. The operator would check the pond for evidence of an oil sheen,

and any oil would be cleaned up before the valve would be manually opened by the operator to release rainwater that had accumulated in the pond.

Batteries would be used for emergency back-up power at the substation. Similar to automobile batteries, these batteries would contain sulfuric acid in the electrolyte. The substation's two batteries would have 20 cells each for a total of 40 cells, and would provide an output of 125 volts (in comparison, an automobile battery has 6 cells and provides an output of 12 volts). Release of material from the batteries in the event of a spill would be prevented by housing them in a building with a concrete floor and without drains.

Nitrogen gas (N_2) and Sulfur Hexafluoride gas (SF_6), both inert and non-toxic gases, would be used at the substation. N_2 would be used to slightly pressurize oil-filled equipment, while SF_6 would be used as an insulator and arc suppresser in circuit breakers. SF_6 would not be released under normal conditions; PG&E usually recycles the SF_6 gas in the breakers during maintenance. When SF_6 is exposed to electric arcs, a small quantity of solid residue forms that is highly toxic and must be removed to prevent exposure hazards to PG&E personnel working with the circuit breakers. Vacuuming with a heavy duty shop vacuum and/or cleaning of the equipment surfaces with dry, lint-free rags and proper disposal of the material is adequate to control potential hazards from this residue.

The only potential hazard to the public involved in the use of either the N_2 or SF_6 is a physical hazard involving the high pressure of the gases in the storage cylinders. The likelihood of a cylinder explosion is low; distance between the cylinders and any public access makes the risk of injury remote.

In the long-term operation of the substation, and in the operation of the power transmission and distribution lines, there is a finite risk of electrical arcing and short-circuits due to failure of the equipment. The design of the substation, including the placement of the wires, equipment, and the fencing around the substation, as well as the design of the power and distribution lines, is intended to prevent public access to high-voltage equipment and to minimize the risk to the public of shock or injury in the event of equipment failure.

Soils on the project site have no firm documentation of contamination with fuels, metals, volatile organic compounds, and phenol. One well log record (Well No. 7) indicates the possible presence of gasoline at a depth of 6 – 6 _ feet, as indicated by gasoline odor (Geomatrix Consultants, 1998). That well log is near the site of a former underground storage tank, located southerly of the proposed substation area. Nearby borings, including Boring No. 1 which is closest to the substation site, had no detected gasoline odor. Thus it may be surmised, that contamination, if present, probably is localized to the area near the tank. Although unlikely, if present within the substation construction area (poles and foundation structures), contaminated soils disturbed or excavated during site preparation

could pose a health risk to construction workers. Little hazard likely would occur to the adjacent public. Additionally, contaminated waste soils would need to be handled and disposed of in accordance with local, state, and federal regulations. Risk-based analysis of on-site contamination indicates that on-site soil contamination is below target levels that would identify further investigation. However, the California Department of Toxic Substances Control (DTSC, the lead agency) has not categorically accepted risk-based assessment, and the case has not been closed. Consequently, the potential exists for site remediation to be required by the regulatory agency (DTSC). As the placement of the transformers requires a large, continuous concrete pad foundation, the soil would be effectively sealed below the substation. Construction of the foundation would require excavation, which would proceed according to worker safety requirements of the Federal and California Occupational Safety and Health Administrations (OSHA). If DTSC determines that site contamination requires action, OSHA rules that would require a site-specific Health and Safety Plan (HASP) to be prepared and implemented by PG&E and its contractors to minimize exposure of construction workers to potential site contamination, and properly dispose of construction-derived waste soil in accordance with local, state, and federal regulations.

PG&E's proposed mitigation measures are consistent with those employed at other substations and power lines, and would be adequate to ensure a minimal risk of accidental explosion or release of hazardous substances. Assuming implementation of the mitigation measures proposed as part of the plan, additional mitigation is not required and the hazard is less than significant.

- b) To the extent that the construction and operation of the project would improve the reliability of the local electric power system, the proposed substation would benefit local emergency response capabilities. However, no interference with an emergency response plan or emergency evacuation plan is evident. Construction-related impacts on the nearby Fire Station are described in Section VI. Transportation / Circulation.
- c,d) The project would take high-voltage electricity from the PG&E 115 kV power line, step-down the voltage to 12 kV, and distribute the electricity to local customers. By its nature, the project provides certain benefits and poses certain risks to the public. In addition to the issues discussed elsewhere in this section of the Initial Study, because the project will alter the electric and magnetic fields (EMF) in the vicinity of the site, concerns about potential health-related consequences of the EMF are addressed.

The project is located near the right-of-way of a PG&E 115 kV power line, an operating high-voltage electric power transmission facility. The power line, under peak electrical load conditions, is estimated to generate a magnetic field strength of not more than 150 milliGauss (mG) at the edge of the right-of-way (PG&E, 1997). This value represents, in

effect, a maximum baseline condition for the substation site, along the boundaries of the power line right-of-way; directly under the power line, the value would be higher.

PG&E calculated the magnetic field strength that would be created by the operation of the substation at the proposed substation property boundaries. Based on ultimate build-out of the substation with two 30-MVA transformer banks, up to eight 12 kV distribution feeders (four from each of the two banks), it was determined that the strength of the magnetic field at the property boundary would range from 0.1 mG to 21 mG (PG&E, 1997). The calculations include magnetic field strength contributions from the 115 kV power line, but exclude contributions from the existing 20-MVA transformer bank or the stand-by generator. Although connections to the power line are necessary, the power line is a part of the proposed project.

Under the maximum electrical load conditions, the contribution of the project to the magnetic field strength at the property boundaries would range from 0.1 mG to 21 mG, as follows: along the western boundary, 0.1 mG to 0.5 mG; along the northern boundary, 3.0 mG to 21 mG; along the eastern boundary, 0.1 mG to 3.0 mG; and along the southern boundary, 0.1 mG. Typically, the higher levels of magnetic field strengths at the boundaries of the substation correspond to the locations of the undergrounded 12 kV distribution lines.

Average annual electrical load conditions for the substation would be less than the maximum load, and the contribution of the project to the magnetic field strength at the property boundaries would be about correspondingly decreased. Further, typical magnetic field strengths at the edge of power line rights-of-way would be 10 mG to 90 mG (PG&E, 1997).

Ultimately, up to eight underground 12 kV distribution circuits would connect the Corona Substation to the existing electric distribution system. While not part of the proposed project, they would contribute to EMF at the site. The undergrounded feeds to the 12 kV distribution lines would exit the substation site on the Corona Road frontage.

These contributions would occur within the existing rights-of-way of the streets and power lines and not on surrounding residential or commercial properties. Members of the public that would be exposed to these fields include anyone walking within the rights-of-way or along the Corona Road frontage.

In response to public concern about possible health effects of EMF from electric utility facilities, the CPUC opened an investigation of the hazards. On November 2, 1993, the CPUC issued Decision 93-11-013, which recognized the public concern, but which declined to “adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.” However, in that decision, the

CPUC did direct all publicly-owned utilities to take “no cost and low-cost” EMF reduction steps on transmission, substation, and distribution facilities to reduce exposure of the public to magnetic fields.

In accordance with that requirement, the proposed design of the Corona Substation includes the following “no cost and low-cost” EMF reduction measures:

- 1) Use compact equipment spacing, which reduces the site area used and allows equipment to be shifted away from the nearby residential and future commercial areas across Corona Road. Providing more distance between the equipment and the property lines would reduce magnetic field strength at the property line;
- 2) Arrange the phasing of the 115 kV power line and the 12 kV distribution lines so that they create the minimum magnetic field at the edge of the right-of-way; and,
- 3) Use metal-clad switchgear to reduce magnetic field contributions from the 12 kV bus.

The PEA (PG&E, 1997) contains summary discussions about possible relationships between exposure to EMF and potential health-related effects, summarizing information from the U.S. National Academy of Sciences, American Medical Association, American Cancer Society, California Department of Health Services, National Institute of Environmental Health Sciences, U.S. Department of Energy, and the CPUC (PG&E, 1997). The U.S. National Academy of Sciences study (NAS, 1996) is the most recent comprehensive evaluation of the topic. The committee concluded that the current body of evidence does not show that exposure to power-frequency EMF presents a human hazard.

In conclusion, there is no evidence that the existing EMF from the substation or the 115 kV power line (and the 12 kV distribution lines) presents a health hazard to those individuals who live and/or work in the vicinity of the site. Further, there is no evidence that the additional EMF contributed by the proposed Corona Substation or the new power line circuit would create a health hazard or potential health hazard. The impact is less than significant and additional mitigation is not required.

Operation of the proposed Corona Substation would not substantially change the number of people working on or using the site, so the project would not increase the total exposure of people to any existing sources of potential health hazards.

- e) The site is cleared of vegetation, and would remain paved with the construction of the substation. The substation facilities would remain free of shrubs or trees (landscaping is proposed only in the perimeter areas); this would prevent any hazard of arcing leading to a fire that would spread to the landscaping trees on the perimeter of the site. There would be no increase in fire hazard on the site or adjacent areas.

Operation of the power tap line carries a finite risk of electric arcing due to objects contacting the energized power line; that arcing, in turn, could lead to a fire. Given that the new power tap line leading to the substation is short, and that the project includes measures to cut and replace trees that could be too close to the new extension, the incremental increase in fire risk is likely very small. Rigorous maintenance of right-of-way landscaping trees would be effective in reducing the risk of fire due to tree contact with power lines.

X. NOISE

Would the proposal result in:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increases in existing noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of people to severe noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) Construction noise levels at and near locations on the project site would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. The effect of construction noise would depend upon how much noise would be generated by construction, the distance between construction activities and the nearest noise-sensitive uses, and the existing noise levels at those uses. Construction noise would be intermittent, extended over a period of four months.

The noisiest phases of construction would generate approximately 89 L_{eq} at 50 feet (EPA, 1971). The receptors nearest proposed construction activity would be the residents in the Youngstown Mobile Home Park located adjacent to the Service Center's southern and western boundaries. Residents in homes easterly of the site also would be noise receptors. Consequently, construction noise during construction would generate noise levels up to approximately 90 dBA, L_{eq} at the nearest residences during regrading and resurfacing activities.

Given ambient noise levels at these residences, construction noise would be noticeable; however, many residences generally are less occupied during the daytime. Construction noise would be annoying to those residents who would be home during the day, but it would be a temporary disturbance. During nighttime, temporary construction-related noise could be more noticeable (since background noise is lower) and could annoy the closest residents given the more sensitive nature of the nighttime period. The City of Petaluma

Noise Ordinance specifically prohibits construction activity between the hours of 10:00 p.m. and 7:00 a.m. Monday through Friday, and between 10:00 p.m. and 9:00 a.m. on Saturdays, Sundays, and State, Federal, or local holidays. Consequently, construction activities would not be allowed to occur during nighttime hours and would not result in increases in noise levels during these periods.

Transformers on the substation site would generate operational noise. The potential for noise impacts from the transformers is addressed in a Noise Impact Assessment study prepared for the proposed project (EDAW, Inc., 1997). This study found that the two transformers proposed for the site would each generate a noise level of 67 dBA, and a composite noise level of 70 dBA at a distance of four feet. The report predicts a resultant noise level of up to 54.0 dBA at the property line. This projected noise level at the property line with the transformers present would be 0.6 dBA above the ambient noise level, and is not substantial enough to affect the existing ambient noise level, which was calculated to be 58 dBA L_{eq} over a 24-hour period. Consequently, operation of the transformers would be:

- consistent with the City of Petaluma Noise Ordinance, which restricts maximum permissible noise at the property line to be 60 dBA, L_{eq} ; and
- consistent with the Petaluma General Plan Noise Element, that established 60 dBA, L_{dn} as reasonable for exterior use areas for single- and multi-family residential areas.

Implementation of the project would not result in relocation of existing equipment, maintenance, or service vehicle parking to the boundaries of the project site. Employee parking would be relocated to the northeastern corner of the project site. Noise generated by employee vehicle parking would occur intermittently during daytime hours and would not noticeably increase ambient noise levels.

Mitigation

The following mitigation measures would reduce the potential impact to a less than significant level:

Mitigation Measure X.a-1: To reduce the construction noise effects, PG&E shall ensure that noisy construction activities at the substation site and near residences along the power line route shall be limited to the least noise-sensitive times of day and week as required by the City of Petaluma Noise Ordinance.

Mitigation Measure X.a-2: To reduce the construction noise effects, PG&E shall ensure that all construction equipment used on the substation site and for power line construction shall be adequately muffled and maintained.

Mitigation Measure X.a-3: To reduce the construction noise effects, PG&E shall ensure that all stationary construction equipment (i.e., compressors and generators) shall be located as far as practicable from the eastern and southerly property line.

PG&E shall certify compliance with these measures in scheduled progress reports to the CPUC.

- b) As discussed in the response to Item X.a., the noise levels resulting from project operation would be less than ambient noise levels and would not be considered severe.

XI. PUBLIC SERVICES

Would the proposal have an effect upon, or result in a need for new or altered, government services in any of the following areas:	Potentially Significant			
	Potentially Significant Impact	Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Maintenance of public facilities, including roads?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other governmental services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) The proposed substation would not introduce any uses that would generate building square footage or increased population that would typically require additional fire protection services. The project site is already served by the City of Petaluma Fire Department Fire Station #2, located at 1001 North McDowell Boulevard (Glotch, 1998). The project would not create any new fire hazard or structures likely to require fire suppression service. No impact is anticipated. Construction-related impacts on fire protection and emergency response are discussed in Section VI. Transportation / Circulation.

b) The City of Petaluma Police Department serves the project site. The proposed substation would not introduce any uses that would increase population, which would typically require additional police protection services during operation. The project may require the occasional use of police services during construction. Theft of construction equipment and/or vandalism might occur during the construction period, requiring a police response. The replacement of existing power line poles may require temporary closure of Corona Road for power line manipulation. Such actions are typically coordinated with the local

police and would take place during off-peak commute hours. The use of police services would be a temporary construction related impact and would not be expected to affect police services substantially. In the long-term, besides the perimeter wall, PG&E proposes that the substation transformer banks would be fenced to prevent vandalism and public access. Additional mitigation is not required. Therefore, the project would have a less-than-significant effect related to police services.

- c) The proposed substation project would not introduce any uses that would increase population, which would typically require additional school services. Therefore, the project would have no impact on school or other community services (also see Section II., Population and Housing).
- d) The proposed project would not require additional maintenance of public facilities during its operation. As requested by the City of Petaluma, a segment of the distribution lines in front of the project site would be undergrounded. The maintenance of the substation facility, the power tap line and distribution lines would be handled by PG&E, which has previously planned for the project. Following a three year period of watering by PG&E, maintenance of proposed landscaping areas along Corona Road would be the responsibility of the City. Tree trimming in portions of the landscaped area to prevent interference with overhead power lines would be the continuing responsibility of PG&E. Elsewhere, tree trimming, spraying, groundcover maintenance, etc., would be carried out by the City. It is expected that the City would benefit from the project by the landscaping and new development provided power service because of the project would generate tax revenue to cover the maintenance costs, which are expected to be modest. Therefore, the project would have no significant effect related to public facilities.
- e) No project impacts to other government services are anticipated in the City of Petaluma.

XII. UTILITIES AND SERVICE SYSTEMS

Would the proposal result in a need for new systems or supplies, or substantial alterations, to the following utilities:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Power or natural gas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Communications systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Local or regional water treatment or distribution facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Sewer or septic tanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Storm water drainage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Solid waste disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Local or regional water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The proposed project is responding to a regional need for electrical utility upgrades and would not in itself be considered a cause for other new or altered power or natural gas utilities. Therefore, no impact to power or natural gas systems or supplies would occur.
- b) Pacific Bell provides communication services and currently serves the project area. The project site currently has telephone lines that are used by the Petaluma Service Center. The operation of the substation would require a minimum of new communications infrastructure. The substation would not house any employees but would be connected via telephone lines to PG&E engineering controls for remote operation and alarm systems. PG&E has stated that proposed construction of the power lines and landscaping on the north side of Corona Road would not disturb an existing underground telecommunications line located between the edge of the road and the drainage canal. Therefore, no impact to communication services is anticipated.
- c, d) The project site does not have any septic tanks or sewer services. The operation of the substation would not create a demand on water supply or sewer services. No bathroom facilities would be required as the substation would be controlled remotely and not house any employees (PG&E, 1997). Water supply for the perimeter landscaping would be maintained without change. No water or sewer lines would have to be moved for construction of the project. Therefore, no impact to water supply and sewer services is anticipated.

- e) The size of the substation site is 0.55 acre, and the storm water drainage from the site currently discharges into the City’s storm water system. The expected increase in the amount of impermeable surfaces (that would create additional run-off) is small and would have a less-than-significant impact on the local storm drainage system. Site runoff would not exceed the capacity of the storm drains serving the site. Therefore, the project would have a less-than-significant impact related to storm water infrastructure (also see Section IV., Water). The project would create a landscaped “urban creek” in the existing drainage ditch along the north side of Corona Road (PG&E, 1998b). This would be a drainage channel to receive roadway runoff. The proposed design would not affect local drainage.
- f) The project would require solid waste disposal service only during the construction phase. PG&E and its contractors for construction would remove all solid wastes from the site. In the long-term, no solid wastes would be generated at the site because the substation would be controlled remotely and not house any employees (PG&E, 1997). Therefore, no impact to solid waste disposal services would occur.
- g) The project would require a minor increase in water use for construction that could be accommodated by available water service, and would not have a substantial impact on local or regional water supplies. In the long-term, no additional water services would be needed, as the substation would be controlled remotely and not house any employees (PG&E, 1997). Water service would be restricted to that needed for maintaining the existing landscaping. Therefore, no impact to water services would occur.

XIII. VISUAL / AESTHETICS

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Affect a scenic vista or scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a demonstrable negative aesthetic effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create light or glare?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) The project would not affect any designated scenic street or highway (City of Petaluma, 1997). However, the City has indicated that it regards the visual character of Corona Road to be important in its development plan. There are public vistas from Corona Road and Highway 101 (ESA, 1997). Vehicles travelling easterly on the overpass at Highway 101

would have middle ground views of the site with a background vista of the distant hills. Parts of the substation, including two tall poles, and the connector power lines would be visible from the overpass. The proposed landscaping (when matured) would substantially reduce the visual contrast created by these facilities. Additionally, the proposed landscaping would substantially improve the existing visual quality of Corona Road for travelers in both directions. Travelers on Highway 101 would catch fleeting glimpses of some substation facilities at a distance, primarily the tops of the tall poles at the southerly end of the substation. Intervening vegetation along the east side of Highway 101 and other existing development largely obscures views of the site. Therefore, a less than significant impact to scenic vistas or scenic highways would occur.

- b) Pursuant to CEQA, public views are eligible for protection and/or mitigation from project effects that could have a demonstrable negative aesthetic impact. The proposed substation structure and equipment would have an ultimate height of approximately 45 feet. An eight-foot-high chain link fence and facilities for lighting would be installed around the substation. Steel poles, 65- and 85-feet high, would be erected as part of the project. The PEA provides photo rendering of existing conditions and graphical simulations of the proposed substation improvements from public areas surrounding the project site (PG&E, 1997).

The City of Petaluma *General Plan* considers views of the Sonoma Mountains as important visual resources. As identified in the PEA, the principal views of the Sonoma Mountains would not be obstructed by project implementation. However, two poles at the south end of the substation would be visible. In addition, power line poles and a short length of conductors at the north side of Corona Road would be visible from the road and would interrupt existing views of the skyline. While this would not eliminate or block views of the Sonoma Mountains, in the context of the City policies from the *General Plan*, this impact would be potentially significant. PG&E has prepared a landscaping plan as part of its amended application for the Corona Substation (PG&E, 1998b). The landscaping plan includes plantings of trees, shrubs and understory vegetation to ameliorate the visual impacts of the project facilities along Corona Road. While the landscaping, when matured, would screen and soften the visual contrast of the facilities with the surrounding area, facilities would be partly visible. While the visibility of the power lines is unavoidable, the substantial reduction in visual contrast created by the landscaping would reduce the impact significantly. In addition, the proposed landscaping would result in a substantial visual improvement over the existing condition of the landscape in that area. The potential undergrounding of the existing overhead power lines on Corona Road and the implementation of the proposed Landscape Plan would enhance the overall visual quality of the project area.

The City requested that PG&E consider undergrounding the connector power line as a visual mitigation. PG&E has rejected that design because of cost and because

undergrounding would require some substantial facilities that would also induce strong visual contrast in the landscape along Corona Road.

Because the substation site itself is set back from Corona Road, the proposed landscaping would substantially screen the transformer banks and other facilities from travelers on Corona Road. For travelers heading eastbound on Corona, the view of the proposed substation would be barely and briefly noticeable, if visible at all, because of the proposed landscaping and the recreational vehicle storage and existing Youngstown's property fencing fronting on Corona Road (PG&E, 1998). For travelers heading westbound on Corona Road, views of the new conductors and substation would be brief, mostly limited to the portion of the view open through the entrance road to the substation. The vegetation and a chain link fence with redwood slats would screen the lower substation equipment along the remainder of this road segment. Visual impacts are thus considered less than significant.

Residences along Pamela Court and Michael Drive (on the south side of the Service Center) have views toward the substation site where the PG&E building and existing redwood trees do not block these views. The PG&E building blocks most of the view to the proposed substation for residences located on the west side of the Service Center, while a four-foot-tall wooden fence partially blocks views to the substation site. PG&E proposes to construct a new wood fence six feet high along the western and southern perimeter of the Service Center. The fence would not be tall enough to completely screen the upper parts of the substation and tall power poles. Visual quality impacts to residences located in the Youngstown Mobile Home Park are considered adverse as they would have partial close-range views of the facilities. With the implementation of PG&E's proposed Landscape Plan, visual impacts would be reduced to a less-than-significant level.

As described in the PEA, the following mitigation measures included as part of the project would reduce potential visual impacts to a less-than-significant level (PG&E, 1998):

- PG&E will submit a Landscaping Plan to the City's SPARC for review and approval. The Plan includes the location and type of landscaping proposed for the northerly and southerly frontages of Corona Road, and the Service Center Park lots and perimeter. Final determination of the actual species and the appropriate maintenance conditions would be left to the Petaluma SPARC; and
- The proposed landscaping would be installed prior to or within six months of energizing the substation, assuming timely review and approval of the landscaping plan by SPARC.

Landscaping is proposed on the north and south sides of Corona Road, on the east and west side of the Service Center, and immediately surrounding the proposed substation. It would

take approximately seven to ten years for proposed landscaping to completely filter views of the substation and yard, and to provide screening and shading of the parking areas.

Three single family homes are located to the east of the proposed substation. Because these houses are not oriented toward the substation, and proposed trees along the Service Center perimeter would screen much of the view of the facilities, the visual impacts on these residences are considered to be less than significant.

Views from Highway 101 would be either screened or brief in duration from vehicles. Existing vegetation, homes, and the Corona Road overpass block views from northbound traffic. The view of two poles on Corona Road from southbound traffic is subordinate to other landscape features in that area (PG&E, 1997). Visual impacts on highway traffic are considered less than significant.

Visual effects on North McDowell Boulevard include the installation of a new steel pole on the corner of North McDowell Boulevard and Corona Road and the replacement of the eucalyptus trees with smaller trees alongside the south side of the Fire Station. The new pole would increase in height from 65 to 85 feet, and the existing wood pole with distribution lines and other utilities would be reduced in height. The other poles along Corona Road, from the vantage point of North McDowell Boulevard, would be lowered in height or undergrounded (PG&E, 1997). Implementation of the Landscape Plan and possible undergrounding of utilities, pending agreement by other utilities using the poles, would ensure that the visual quality impacts on North McDowell Boulevard are less than significant.

In sum, with PG&E's proposed landscaping plan, the visual impacts of the project are less than significant. Additional mitigation is not required.

- b) Existing lighting at the Service Center includes three manually operated exterior lights on the garage building. In addition, pole-mounted lights, which are on all night, are located at five locations within the Service Station yard. In response to residents of the mobile home concerns about existing Service Center conditions, including lighting, PG&E recently implemented a number of measures to mitigate nuisance lighting. One of these measures involved replacing the existing 400 watt exterior bulbs with 70 watt bulbs. Shields were also installed to direct the exterior lighting away from the neighbors' line of sight (PG&E, 1998).

Lighting requirements for the proposed substation are likely to be reduced because of its location within an already secured and lighted Service Center. Lighting may be limited to manually-operated, downward-directed lighting at the northerly and southerly doors of each of the two metal clad switchgear (these switchgears are located closest to the western substation fence). These lights would only be turned on in the event that substation

maintenance is required during nighttime hours. Lights on this equipment would be directed downward and would be shielded from the sight of residents in the mobile home park by the existing service center office building and by existing and proposed trees (PG&E, 1998). The proposed lighting plan would be designed to meet City lighting standards. This project would therefore have a less-than-significant impact related to the creation of light or glare on surrounding uses.

XIV. CULTURAL RESOURCES

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Disturb paleontological resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Disturb archaeological resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Affect historical resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have the potential to cause a physical change that would affect unique ethnic cultural values?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Restrict existing religious or sacred uses within the potential impact area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b,c) The project site has undergone previous grading and is primarily covered by gravel (ESA, 1997). Site reconnaissance of the project site was performed by a PG&E cultural resource specialist and an information search was performed within a quarter-mile radius of the site by the Sonoma State University, Cultural Resources Study Center in November of 1996. The examination revealed no evidence of cultural resources in the area of the proposed project, and no previous studies or recorded cultural resources sites or artifacts were revealed from the information search (PG&E, 1997). Therefore, the project is not anticipated to have an effect on paleontological, archaeological, or historical resources.

d) No unique ethnic cultural values are attributed to the project site. Therefore, the project would not have an effect on ethnic cultural resources.

e) The project site is not being used for religious or sacred purposes. Therefore, the project would not have an effect on religious or sacred uses.

XV. RECREATION

Would the proposal:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the demand for neighborhood or regional parks or other recreational facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Affect existing recreational opportunities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) The site has no recreational uses, and due to physical constraints near the project area (i.e., land ownership and existing zoning), no future recreational uses are planned in the project area (Thompson, 1998). Since the proposed project would not result in an impact upon the quality or quantity of existing recreational opportunities, no adverse impacts are anticipated.

XVI. MANDATORY FINDINGS OF SIGNIFICANCE

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

- a) As described in Sections VII., Biological Resources, and XIV., Cultural Resources, the project is not anticipated to have biological or cultural resources impacts.
- b) The physical changes to the environment at the project site would not establish a disadvantage for long-term goals for the area. The substation would be consistent with long-term regional and area goals for establishing reliable power to support planned regional growth. The substation site is an established utility-related use and would not conflict with the City of Petaluma’s primary goals and policies regarding site development.

Long-term goals and policies related to energy resources are included within the City of Petaluma *General Plan*, (City of Petaluma, 1987). Project implementation would not conflict with the City's energy-related goals, as the substation would not prevent the implementation of energy conservation policies. PG&E, in coordination with the CPUC, also has established programs and incentives for conservation of energy resources. As discussed below under Section XVI.c, the availability of electrical supply is considered growth-accommodating. Therefore, implementation of the project would have no impact related to the achievement of short-term goals to the disadvantage of long-term environmental goals.

- c) The proposed substation project is designed to meet projected electric power needs in the Sonoma County area, encompassing the City of Petaluma, the community of Penngrove, and unincorporated areas to the west. The project would accommodate project growth in the northern Petaluma area by providing additional electrical power to a system where the existing electrical capacity cannot meet projected needs (PG&E, 1997). Lack of electrical power capacity in this area would result in a deterioration of service, which could also have negative economic repercussions on regional industry and diminish power service reliability to residential areas.

Adequate electrical service is necessary for continued economic and population growth. The availability of electrical capacity, by itself, does not normally ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, and local planning policies have a more direct effect on growth than the availability of electric power service. As related to the substation project, the availability of electrical supply, therefore, is considered growth-accommodating rather than growth-inducing.

The proposed substation project responds to electrical load growth in a limited geographical area, which is due primarily to system expansion of current industrial and commercial customers. No public projects are anticipated to be directly initiated as a result of construction and operation of the substation.

The project's visual impacts could potentially conflict with the City's concept plan for Corona Road and would have some adverse visual/aesthetic effects on immediately neighboring residents that cannot be entirely eliminated. As noted, PG&E has proposed visual mitigation as part of its application in the form of landscaping to screen most of the proposed facilities from sight to travelers on Corona Road and from adjacent residents. Full screening of the facilities is not possible, but the net effect of the landscaping plan is to substantially reduce the visual contrast created by the proposed facilities and to substantially improve the existing visual character of the areas immediately bordering Corona Road. Other future land developments along or near Corona Road could further alter the visual character of the road and parcels adjacent to the substation. A power pole

and power line crossing of North McDowell Boulevard at Corona Road also would add to the cumulative visual alteration of that thoroughfare, which is a major artery in this part of Petaluma. However, these visual features are not likely to substantially affect existing or planned land uses along Corona Road or North McDowell Boulevard or significantly hinder the City from achieving its land use planning objectives for this area. The visual impacts of the proposed facilities are adverse, but with the proposed landscaping plan, the impact is reduced to a less than significant level.

Therefore, the cumulative effects of the substation project would be considered to have a less-than-significant impact.

- d) As described in Section IX., Hazards, the project is not anticipated to cause substantial adverse effects on human beings, either directly or indirectly. Therefore, the project would have no impact related to adverse effect on human beings.

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