5.9 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate Regional Water Quality Control Board water quality standards or waste discharge requirements?	☐	☒	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater discharge such that there would be a net deficit in the aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☒	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on or off site?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?	☐	☐	☒	☐
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☐	☒
g. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other hazard delineation map?	☐	☐	☐	☒
h. Place within 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	☐	☐	☐	☒
j. Cause inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

This section describes the existing hydrology and water quality in the Windsor Substation Project area and evaluates the potential hydrology and water quality impacts associated with construction and operation of the project. The setting and analysis in this section are based on the following resources: review of *Phase I Environmental Site Assessment* and *Limited Phase II Environmental Site Assessment* reports prepared by ERM; wetland data collected by TRC in February 2011; and a site visit conducted by Aspen Environmental Group in October 2011.

5.9.1 Setting

The proposed project site is in the Town of Windsor, at approximately 120 feet above mean sea level (amsl). The Town of Windsor receives 30 to 40 inches of rain annually, with most precipitation occurring between October and April (city-data 2012). The summers are relatively dry, with less than half an inch of rain falling per month on average. The project area includes a variety of land uses, including residential, commercial, industrial, and agricultural.

Surface Water Features. Sotoyome Creek is approximately 125 feet north of the proposed substation site, and the Russian River is approximately 1.4 miles west of the proposed substation site.

Surface water at the proposed substation site consists of upland stormwater collected through a seasonal swale, drainage ditch, and roadside ditches along Old Redwood Highway. There is one small, seasonal swale located near the southwestern corner of the substation site. This seasonal swale abuts a drainage ditch and receives water from an unknown, off-site source through a culvert in southwestern corner of the site. The stormwater runoff associated with this seasonal swale area flows to the northwestern corner of the property and appears to ultimately discharge into Sotoyome Creek. Inlets along the northern edge of the substation site appear to be associated with previous land uses on the site rather than stormwater conveyance features; however, a small drainage ditch directs a small amount of runoff into one of the inlets. The inlet directs water south towards the middle of the site; the termination point for this runoff is unknown. (~~TRC 2012~~PG&E 2011)

There are a number of water features along the Fulton No. 1 60 kV Power Line (west of the proposed substation site, along the railroad right-of-way) and along the 12 kV distribution line (east of the proposed substation site, along Old Redwood Highway). These water features include relatively natural features, such as seasonal swales and perennial creeks, and excavated features, such as roadside ditches, constructed as part of street and highway projects. The Fulton No. 1 60 kV Power Line crosses Starr Creek and one of its tributaries. The 12 kV power line also crosses Starr Creek. Wetlands and water features are listed in Table 5.4-2.

Most of the stormwater at the proposed substation site infiltrates to the ground and/or flows overland toward the seasonal swale along the western and southern perimeters of the property (ERM 2011). Surface water from the northern part of the project area (the substation site and first six or seven poles of the Fulton No. 1 60 kV line and the 12 kV line along Old Redwood highway) eventually drains into Sotoyome Creek via roadside ditches and the municipal stormwater collection system. Farther south surface water drains to Starr Creek or its unnamed tributaries. Both Starr Creek and Sotoyme Creek are part of the Russian River Watershed and connect with the Russian River west and southwest of the project area. (TRC 2012)

Water Quality. No data are available on surface water quality at Sotoyome Creek and Starr Creeks. Nearby Windsor Creek is also a tributary of the Russian River and is monitored by the Community Clean Water Institute (CCWI). Data collected by the CCWI in October of 2009 indicate that Windsor Creek failed to meet water quality objectives for dissolved oxygen, as well as electrical conductivity (salinity) objectives measured at a sampling point less than 1,000 feet east of the project corridor. From approximately June to October, water temperature was around 16 degrees Fahrenheit (F), while optimal temperatures for salmonids are between four and 16 F. In addition, throughout 2009, Windsor Creek pH ranged between 7 and 8, which are levels that could indicate excess algal growth. Windsor Creek met all water quality objectives at other points in 2009. It is likely that surface water quality in Sotoyome and Starr Creeks also vary throughout the year. (CCWI 2009)

Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) designates areas that may be inundated by a 100-year storm as a Flood Hazard Area "Zone A." The proposed substation site and associated distribution line improvement areas are not located within a FEMA-designated Flood Hazard Area. The substation site is approximately 0.75 miles east of the nearest Flood Hazard Area (FEMA 2008).

Groundwater. The proposed substation site is underlain by the Santa Rosa Plain Subbasin, which is part of the larger Santa Rosa Valley Groundwater Basin. The Santa Rosa Plain Subbasin is drained principally by

Santa Rosa and Mark West Creeks, which flow westward and collect into the Laguna de Santa Rosa. The Laguna de Santa Rosa flows northward and discharges into the Russian River. This groundwater system is recharged through permeable surfaces, including those on the proposed substation site. The local groundwater system provides much of the supply of domestic and irrigation water for municipal, agricultural, and industrial use. (DWR 2004)

Based on surface topography, groundwater at the substation site is expected to generally flow west to southwest, toward the Russian River. Data from a nearby site suggest that shallow groundwater may be present at approximately 35 feet below ground surface (bgs) (DWR 2012). During site investigation, groundwater was found in shallow borings within five feet of the surface; however, because of recent rains at the time of the investigation it is possible that the water found in these borings was perched water that had recently infiltrated from the surface (TRC 2011).

Applicable Regulations

Clean Water Act (CWA). The CWA (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The proposed project area is within the jurisdiction of the North Coast RWQCB.

- **Section 402** of the CWA authorizes the California State Water Resources Control Board (SWRCB) to issue NPDES General Construction Storm Water Permit (Water Quality Order 99 08 DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided that they meet the following requirements: Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters; Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation; and Perform inspections of all BMPs. Projects that disturb one or more acres are required to obtain NPDES coverage under the Construction General Permits.
- **Section 401** of the CWA requires that any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into a State waterbody, must be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. The limits of non-tidal waters extend to the Ordinary High Water line, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. The U.S. Army Corps of Engineers (USACE) may issue either individual, site-specific permits or general, nationwide permits for discharge into U.S. waters.
- **Section 404** of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A Water Quality Certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for Water Quality Certification (or waiver thereof) from the applicable RWQCB, which for actions under the proposed project would be the Central Valley RWQCB. When an application for a Section 404 permit is made the applicant must show it has: taken steps to avoid impacts to

wetlands or waters of the U.S. where practicable; minimized unavoidable impacts on waters of the U.S. and wetlands; and provided mitigation for unavoidable impacts.

- **Section 303(d)** of the CWA requires states to identify "impaired" water bodies as those that do not meet water quality standards. States are required to compile this information in a list and submit the list to the USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of Total Maximum Daily Load (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Flood Insurance Program (NFIP). The NFIP, established by Congress in 1968, enables participating communities to purchase flood insurance. Flood insurance rates are set according to flood-prone status of property as indicated by Flood Insurance Rate Maps (FIRMs) developed by FEMA. FIRMs identify the estimated limits of the 100-year floodplain for mapped watercourses, among other flood hazards. As a condition of participation in the NFIP, communities must adopt regulations for floodplain development intended to reduce flood damage for new development through such measures as flood proofing, elevation on fill, or floodplain avoidance.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq. regulates surface water and groundwater within California and assigns responsibility for implementing CWA Sections 401 through 402 and Section 303(d). It established the SWRCB and divided the state into nine regions, each overseen by a RWQCB, and requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. Those criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs. Water quality criteria for the project study area are contained in the Water Quality Control Plan (Basin Plan) for the North Coast Region (Region 1). The Basin Plan sets water quality standards controlling the discharge of wastes to the State's waters and land.

Even if a project does not require a federal permit (*i.e.*, a Section 401 from the USACE), it may still require review and approval by the RWQCB. As a result of a 2001 U.S. Supreme Court decision known as SWANNC, or "Solid Waste Agency of Northern Cook County," the SWRCB issued *Guidance for Regulation of Discharges to Isolated Waters* to assist the nine RWQCBs in regulating isolated waters (SWRCB 2004). These guidelines are intended to ensure that isolated wetlands that do not fall under federal jurisdiction or State jurisdiction via California Department of Fish and Wildlife (CDFW) still are regulated under the Porter-Cologne Water Quality Control Act (Cal. Water Code Sections 13000 through 14920) and as such are treated on a priority basis by the RWQCB.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. Generally, the RWQCB defines beneficial uses to include all of the resources, services and qualities of aquatic ecosystems and underground aquifers that benefit the State. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. For most construction projects, RWQCB requires the use of construction and post-construction BMPs. In many cases, proper use of BMPs, including bioengineering detention ponds, grassy swales, sand filters, modified roof techniques, drains, and other features, will speed project approval from RWQCB. Development setbacks from creeks are also requested by RWQCB.

~~**Town of Windsor Stormwater Quality Ordinance No. 2008-249**. Stormwater Quality Ordinance No. 2008-249 was adopted by the Town of Windsor to protect and enhance the quality of creeks and waterways that flow through the town. The ordinance includes requirements to achieve the following: reduce pollution in stormwater consistent with the requirements of the U.S. Environmental Protection Agency, SWRCB, and RWQCB; eliminate illegal discharges; eliminate or secure approval for illicit connections to Windsor's stormwater system; remediate stormwater pollution; conduct monitoring and analysis to demonstrate compliance; and provide timely notification of spills.~~

5.9.2 Environmental Impacts and Mitigation Measures

PG&E proposes to implement measures during the design, construction, and operation of the proposed project to ensure it would occur with minimal environmental impacts in a manner consistent with applicable rules and regulations. Applicant Proposed Measures (APMs) are considered part of the proposed project in the evaluation of environmental impacts. CPUC approval would be based upon PG&E adhering to the proposed project as described in this document, including this project description and the APMs (see Table 4-5 in the Project Description), as well as any adopted mitigation measures identified by this Initial Study.

a. Would the project violate any water quality standards or waste discharge requirements?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Surface water features within the biological/wetland survey area include perennial creeks, tributaries to Starr Creek, seasonal swale/wetlands, drainage ditch, and roadside ditches. See Figure 5.4-1 in Section 5.4 (Biological Resources) for the locations of waters and wetlands. Construction of the proposed project would involve earth-disturbing activities such as grading and excavation that would introduce the potential for erosion and sedimentation that could result in water quality degradation. This would be particularly likely if precipitation occurred during the active construction period, when soils are freshly disturbed. Water quality could also be degraded if hazardous materials such as fuels are accidentally spilled or leaked during construction. APMs are identified in Table 4-4 and have been incorporated into the proposed project design in order to minimize the potential for erosion, sedimentation, and/or accidental spills of hazardous materials. Applicable APMs are summarized below.

- **APM WQ-1** requires that BMPs be in place prior to the start of construction.
- **APM WQ-2** requires the development and implementation of a project-specific SWPPP and specifies BMPs to be included in the SWPPP to prevent erosion and sedimentation.
- **APM WQ-3** requires all construction workers to be trained to appropriately implement erosion and sediment control measures.
- **APM WQ-4** requires that all BMPs be regularly inspected to ensure effectiveness and to be inspected and repaired as needed following precipitation events.
- **APM WQ-5** requires the implementation of a Spill Prevention Control and Countermeasure (SPCC) Plan to address potential spills or accidental releases of hazardous materials such as motor oil that are commonly used during construction. The SPCC plan will include engineered methods for containing and controlling an oil release, including a water-collection system and retention pond equipped with an oil/water separator. Oil-absorbent material, tarps, and storage drums will be present on-site to contain and control any minor releases.
- **APM WQ-6** specifies the types of permits may be required if jurisdictional waters are identified within the project site.

- **APM WQ-7** requires feasible avoidance of wetlands, swales, and drainages during construction to minimize the potential of direct impacts to these surface water features.
- **APM WQ-8** requires that potentially hazardous materials used during construction would be properly handled and disposed of to avoid the potential for such materials to result in water quality degradation.

In addition to the APMs described above, **Mitigation Measure B-4** (Mitigate for any permanent impacts to wetlands or vernal pools), presented in Section 5.4, ensures that any permanent impacts to wetland or vernal pools would be mitigated through conservation of similar areas, creation of new wetlands/ vernal pools, and/or purchase of mitigation bank credits. With implementation of these measures, potential impacts of project construction associated with water quality degradation that could result in the violation of a water quality standard or waste discharge requirement would be less than significant.

Operational activities associated with the proposed project that could result in water quality degradation include the potential for spills of hazardous materials from substation equipment. However, this would be minimized through the use of on-site spill prevention controls and countermeasures such as curbs, berms, and site drainage to the proposed retention basin. Because the same retention basin would be used for oil and storm water, the SPCC plan prepared in conjunction with detailed site planning would include engineered methods for containing and controlling a release from oil-filled electric equipment present at the proposed substation site, including a water-collection system and retention basin equipped with an oil/water separator. If oil is present in the basin, a vacuum truck would be used to remove the oil for offsite disposal at a permitted facility. This collection and retention system would also regulate the release of stormwater runoff from the northern portion of the proposed substation site (containing the transformers) and serve as a settling basin to reduce turbidity and sedimentation. Releases from this basin into the existing storm drain system would only be made when it is apparent no oil or sedimentation will be released with the discharge. With these preventative measures and features in place per **APM WQ-4**, operation of the proposed project would not violate any water quality standards or waste discharge requirements, and potential impacts would be less than significant.

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Groundwater within the Santa Rosa Plain Subbasin is recharged by infiltration of surface water flows through pervious surfaces throughout the Basin, including those within graveled portions of the proposed substation site. The existing paved surfaces on the site would be removed. Although there would be some impervious paved surfaces created by the proposed substation, the net decrease in water recharged to the overall groundwater system would be negligible.

During construction of the proposed project, PG&E would use domestic water from the Town of Windsor from wells adjacent to the Russian River for dust suppression. Table 5.9.1, below, provides a summary of water supply requirements associated with the proposed project.

Table 5.9-1. Applicant Proposed Measures (APMs) for Hydrology and Water Quality

Project Activity	Duration*	Gallons per Day	Total Gallons	Acre-Feet
Dust suppression and compaction during grading	3–4 weeks	10,000	150,000–200,000	0.45–0.6
Dust suppression during foundation construction	6–8 weeks	1,000–2,000	30,000–80,000	0.09–0.24
Dust suppression and compaction during underground installation	2–3 weeks	500	5,000–7,500	0.015–0.023
Dust suppression post-installation of conduits and grounds	4 months	250	20,000	0.06
TOTAL		*11,750–12,750*	*205,000–307,500*	*0.615–0.923*

*Assume five working days per week
Source: PG&E 2011-2013, Data Request Responses

The Town of Windsor manages its water supply in accordance with a Water Master Plan (WMP) that was adopted in 2000; an update to the WMP was drafted in 2009, and a Final EIR for the WMP Update was published in 2011. The Water Division of the Town of Windsor is in charge of the Town's water system, which includes pumping and treatment of over 1.3 billion gallons of water annually (3,989.5 acre-feet per year [afy]), maintenance of over five million gallons of water storage (15.3 acre-feet), and implementation of water conservation and recycled water programs (Town of Windsor 2012a, 2012b). As noted in the table above, implementation of the proposed project would require less than one afy of water. Due to the capacity of the Town of Windsor's water system, and the short-term nature of the project's water requirements, no adverse effects to groundwater supply and recharge would occur as a result of the water needs shown in Table 5.9-1.

As stated in Section 4.12.3, regional groundwater occurs at a depth of approximately 80 feet, which is deeper than any excavations or borings included under the proposed project. However, Section 5.9.1 also describes that data from a monitoring well located near the proposed project site indicates that groundwater is located approximately 35 feet bgs, although shallow groundwater has been identified at five feet bgs. It is possible that shallow or perched groundwater could be encountered during construction-related excavation activities, particularly if such activities occur during the rainy season. As described in Section 4.12.3, if significant volumes of perched groundwater are encountered during excavation of horizontal directional drilling or jack and bore entrance or receiver pits, water would be evacuated using a sump pump, transferred into water storage tanks (to be sited at the proposed substation site), sampled, analyzed, transported, and disposed in accordance with all federal, state, and local regulations.

In order to ensure that BMPs identified by the California Stormwater Quality Association (CASQA) are implemented during potential dewatering activities, **Mitigation Measure H-1** would be implemented. With implementation of this mitigation measure, potential impacts of the proposed project associated with the potential to deplete groundwater supplies or interfere substantially with groundwater would be less than significant.

Mitigation Measures for Groundwater

H-1 **Construction Site Dewatering.** If groundwater is encountered during construction activities, dewatering shall be performed in accordance with the 2011 or most recent version of the *Construction BMP Handbook/Portal* prepared by the California Stormwater Quality Association (CASQA), and shall include, as applicable, the use of sediment traps and sediment basins.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or off site?

LESS THAN SIGNIFICANT. The project would not alter the course of any stream or river. Construction and operation of the proposed project would not substantially alter the existing drainage pattern of the proposed substation site or surrounding area. As described in Section 4.9.6 (Drainage) and above in Section 5.8.2(a) regarding water quality and permits, drainage improvements would occur under a project-specific SWPPP for NPDES compliance. The substation design would also incorporate SPCC Plan design requirements, and site grading would direct onsite drainage into the SPCC retention basin shown in Figure 4-4 (Typical Three Bank Substation). Construction activities that expose and relocate soil (e.g., grading and demolition on the proposed substation site, and pole removal and replacement) have the potential to increase sediment in stormwater runoff and increase erosion along exposed slopes and bare ground. However, also as described in Section 5.8.2(a) regarding water quality and permits, APMs would be implemented as part of the project to ensure that potential impacts associated with erosion and sedimentation would be less than significant. APMs applicable to the potential for drainage pattern alterations to result in erosion or siltation on- or off-site include **APM WQ-2** and **APM WQ-4**. Specifically, the project-specific SWPPP described under APM WQ-2 would include the following BMPs to address erosion and sedimentation:

- Silt fences or other sediment containment methods placed around and/or down slope of disturbed areas prior to construction;
- Protection of drain inlets from receiving polluted stormwater through the use of filters, such as fabrics, gravel bags, or straw wattles;
- Installation of additional silt fencing prior to construction along the northwest and south edges of the proposed substation site to address unforeseen runoff from the property into the nearby existing mitigation bank/preserve and mitigation area; and
- Use of brooms and shovels instead of water when possible to maintain a clean site.

With the implementation of these APMs, drainage pattern alterations would not result in substantial erosion or siltation on- or off-site; impacts would be less than significant with no mitigation required.

d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

LESS THAN SIGNIFICANT. The project would not alter the course of any stream or river. As described above, construction and operation of the proposed project would not substantially alter existing drainage patterns of the proposed substation site or surrounding area, and APMs to be implemented as part of the project would minimize or avoid potential adverse effects associated with drainage pattern alterations. During operation of the project, the majority of the proposed substation would be graveled, although there will be some impervious paved surfaces; new impervious surfaces would result in a minor reduction in infiltration capacity, and would not substantially increase the amount of surface runoff. Existing impervious paving on the site would be removed. The potential for drainage pattern alterations to result in flooding on- or off-site would be less than significant with no mitigation required.

e. Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff?

LESS THAN SIGNIFICANT. The proposed project would not substantially increase surface runoff rates such that runoff water would exceed the capacity of existing or planned stormwater drainage systems. As discussed above in Section 5.9.2(a), APMs would be implemented to minimize or avoid potential water quality degradation. Interconnecting the Fulton No. 1 60 kV line into the proposed substation and reconductoring of the existing 12 kV distribution line would not affect stormwater patterns. There would be minimal soil disturbance for the distribution line work. Impacts would be adverse, but less than significant, and no mitigation is recommended.

f. Would the project otherwise substantially degrade water quality?

NO IMPACT. Potential degradation of water quality is addressed under Sections B.3.8.2(a) and (c) above. The proposed project would not otherwise substantially degrade water quality.

g. Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

NO IMPACT. The proposed project does not include the construction of any housing, is not located within a FEMA-designated Flood Hazard Area, and would not cause housing to be located within a Flood Hazard Area (FEMA 2008).

h. Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?

NO IMPACT. The proposed project site is not located within a FEMA-designated Flood Hazard Area, and would not place structures within a Flood Hazard Area that would impede or redirect flood flows (FEMA 2008).

i. Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

NO IMPACT. As noted above, the proposed project site is not located within a FEMA-designated Flood Hazard Area, and the potential for the project to result in flooding on- or off-site as a result of drainage pattern alterations would be less than significant. Warm Springs Dam, which forms Lake Sonoma, is located roughly 15 miles northwest of the Town of Windsor. The inundation area associated with Warm Springs Dam (the area that would experience flooding in the case of dam failure) includes parts of the Town of Windsor, but does not include the proposed project site (ABAG 2011). There are no levees within the project vicinity that could potentially fail such that the proposed substation site would experience flooding. Neither the project itself nor the location of the project would expose people or structures to a resultant significant risk of loss, injury, or death, including as related to flooding.

j. Would the project cause inundation by seiche, tsunami, or mudflow?

NO IMPACT. The project area is not located in an area that is subject to inundation by seiche or tsunami. In addition, due to the relatively flat topography of the proposed project area, it is not subject to mudflow. Therefore, there would be no impact.

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