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4.8 HYDROLOGY AND WATER QUALITY

Would the project:		Potentially Significant Impact	Potentially Significant Unless APMs Incorporated	Less than Significant Impact	No Impact
a.	Violate any other water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 which would result in flooding on-or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g.	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Place within a 100-year flood hazard area, structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j.	Expose people or structures to inundation by seiche, tsunami or mud flow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.8.1 Introduction

This section of the PEA provides information about surface water and groundwater and an analysis of potential impacts to hydrology and water quality from construction, operation, and maintenance of the Proposed Project.

Segments 1 and 2 of the Proposed Project traverse primarily urbanized areas where local hydrology and drainage patterns have been altered. Segments 3 and 4 of the Proposed Project traverse primarily undeveloped foothill terrain with ridges, valleys, and ravines. The vegetation in this primarily undeveloped foothill terrain consists mainly of coastal and riparian scrub, with residential and commercial developments at some locations that have altered the local hydrology and drainage patterns directly adjacent to the SDG&E ROW. Waterbodies crossed by the Proposed Project include perennial and intermittent flowing creeks and drainages of varying widths.

Construction, operation, and maintenance of the Proposed Project would have less than significant impacts to hydrology and water quality. First, the Proposed Project is almost entirely on already existing substation sites and along existing ROW. Second, SDG&E would comply with the legal requirements to prepare and implement an SWPPP and an SPCC Plan.

4.8.2 Methodology

The hydrology and water quality in the Proposed Project area were evaluated by reviewing water quality studies and EIRs from other projects in the area, city and county general plans, USGS 7.5-min series quadrangle maps, the Department of Water Resources *California's Groundwater Bulletin 118*, and online geographical information system sources. Aerial photographs of the Proposed Project area were also reviewed. The San Diego RWQCB's *Water Quality Control Plan for the San Diego Basin* was reviewed to ensure compliance with state and local regulations. The Federal Emergency Management Agency maps were referenced for flood zones. Wetland resources were identified during reconnaissance and habitat assessment surveys conducted in February 2008 and wetlands delineation field studies conducted in 2011 and 2012 (refer to Biological Resources Assessment included as Appendix 4.4-A).

4.8.3 Existing Conditions

4.8.3.1 Regulatory Setting

The Proposed Project site is located in the San Diego RWQCB's jurisdiction. The Proposed Project is located primarily in Orange County, with the southeastern most portion extending into Camp Pendleton in San Diego County. The San Diego RWQCB has required Orange County, San Diego County, and other local municipalities to regulate discharges to their storm drains. The municipalities regulate these discharges through their municipal stormwater ordinances.

The following authorities regulate water quality in the Proposed Project area:

- USEPA;
- ACOE - Los Angeles District;
- CDFG;

- California State Water Resources Control Board (SWRCB);
- San Diego RWQCB;
- Orange County;
- San Diego County; and
- City of San Juan Capistrano; and
- City of San Clemente.

The following sections describe applicable federal, state, and local water quality requirements.

Federal

Section 404 of the Clean Water Act

CWA Section 404 requires an ACOE permit for the discharge of dredged or fill material into jurisdictional WUS. Waters of the United States are defined under 33 CFR Part 329 as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.” ACOE administers and USEPA enforces the Section 404 permit program. All Section 404 permit actions require a CWA Section 401 Water Quality Certification or Waiver from the San Diego RWQCB.

Nationwide Permits

Nationwide Permits are general CWA Section 404 permits for categories of activities that have minimal impacts on aquatic resources and meet certain conditions. Nationwide Permit 12 (Utility Line Activities) authorizes activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in WUS, provided the activities do not result in the loss of greater than one-half acre of WUS. Nationwide Permit 12 requires a pre-construction notification to the ACOE district engineer before beginning the activity if the Proposed Project results in discharges that result in the loss of greater than one-tenth acre of WUS. Section 4.4, Biological Resources, discusses specific impacts to jurisdictional WUS. In addition, a Jurisdictional Waters and Wetlands Delineation Report was prepared for the Proposed Project and has been included in Appendix 4.4-A.

Oil Pollution Prevention

Regulations at 40 CFR 112 require the owner or operator of a facility with an aggregate aboveground oil storage capacity of greater than or equal to 1,320 gallons to prepare and implement an SPCC Plan. Substations with oil-filled electrical equipment above the threshold quantity are subject to these requirements. These regulations require regulated facilities to develop and implement SPCC Plans and establish related procedures, methods, and equipment standards to prevent oil from reaching navigable waters and adjoining shorelines and to contain discharges of oil. SPCC Plans include periodic inspection of facilities and maintenance as needed to ensure containment of petroleum products. Stationary oil-filled equipment with a capacity of 55 gallons must have secondary containment as part of SPCC practices. The secondary containment ensures that even if oil is emitted from primary containment systems, it is

prevented from impacting surface waters. The SPCC provisions of 40 CFR Part 112 includes procedures for inspecting rainwater in secondary containment areas before it can be released to ensure that no oil is discharged.

State

Streambed Alteration Agreements

CFG Code Sections 1600–1616 require a Streambed Alteration Agreement for any project that may obstruct the natural flow of a river, stream or lake; substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or deposit debris where it may pass into a river, stream, or lake. A project applicant must submit a complete notification package to the CDFG describing the portions of a project that would:

- Substantially obstruct or divert the natural flow of a river, stream, or lake;
- Substantially change the bed, channel, or bank of a river, stream, or lake;
- Use any material from the bed, channel, or bank of a river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Section 4.4, Biological Resources, discusses specific impacts to jurisdictional waters of the State of California. In addition, a Jurisdictional Waters and Wetlands Delineation Report was prepared for the Proposed Project and has been included in Appendix 4.4-A.

Section 401 of the Clean Water Act

Section 401 of the CWA requires that any person applying for a federal permit for an activity that may result in a discharge of pollutants into WUS must obtain a certification that the activity complies with all applicable water quality standards, limitations, and restrictions. A federal agency cannot issue a license or permit for this activity without a Section 401 certification. For the Proposed Project area, the San Diego RWQCB issues Section 401 certifications. Section 4.4, Biological Resources, discusses specific impacts to jurisdictional WUS. In addition, a Jurisdictional Waters and Wetlands Delineation Report was prepared for the Proposed Project and has been included in Appendix 4.4-A.

National Pollutant Discharge Elimination System – Construction Stormwater Permits

The NPDES was authorized by the CWA and is administered in California by the SWRCB through the nine RWQCBs. The purpose of NPDES is to control the discharge of pollutants from point sources into WUS. The SWRCB has issued a Construction General Permit under NPDES that applies to most construction activities in California. Coverage under the Construction General Permit is necessary for projects that disturb one acre or greater of soil. The project applicant must submit a Notice of Intent and a SWPPP that complies with the Construction General Permit requirements to the SWRCB before starting construction activities. The project applicant must implement the SWPPP during construction, including requirements for inspections and monitoring, and must revise the SWPPP and implement revisions as needed to protect storm water quality.

The SWPPP describes:

- The project location, site features, and the identification of materials and activities that may result in pollutant discharges;
- BMPs to be implemented during construction. The BMPs are selected to control erosion, discharge of sediments, and other potential impacts associated with construction activities;
- An inspection and maintenance program for BMPs; and
- A sampling and analysis plan for monitoring pollutant discharges to waterbodies.

The project applicant must submit a Notice of Termination to the SWRCB after completing a project subject to the Construction General Permit.

Local ordinances also apply to construction discharges. For example, groundwater seeping into construction excavations can be discharged under the Construction General Permit if it is uncontaminated and meets all the Construction General Permit's requirements. Sewer authority permission is necessary, however, if the groundwater is discharged to the sanitary sewer. Local jurisdictions also implement requirements of their Municipal Separate Storm Sewer System (MS4) permit through local storm water quality protection regulations and grading permit issuance. San Diego RWQCB Water Quality Order R9-2009-0002, NPDES No. CAS0108740, is the MS4 permit for storm water discharges from municipal storm water systems in Orange County, and Water Quality Order R9-2007-0001, NPDES No. CAS0108758, is the MS4 permit for storm water discharges from municipal storm water systems in San Diego County. Requirements from these local permits that apply to the Proposed Project are discussed under the Local Regulations subheading, below.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) establishes a regulatory program to protect water quality and to protect beneficial uses of the state waters. It provides that:

- The quality of all waters of the state shall be protected for the use and enjoyment by the people of the state; and
- Activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality that is reasonable, considering all demands being made or to be made and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

The Porter-Cologne Act establishes the SWRCB and the nine RWQCBs as the principle agencies responsible for control of water quality. The SWRCB is responsible for, among other things, preventing waste and unreasonable use of water, adopting state-wide water quality control policy, and implementing the CWA.

The RWQCBs are responsible for issuing waste discharge requirements to regulate the discharge of waste to surface and ground waters and enforcing waste discharge requirement through cease and desist orders. The Porter-Cologne Act also empowers the RWQCBs to adopt a Water Quality Control Plan that designates beneficial uses and establishes water quality objectives that would ensure reasonable protection of beneficial uses.

Local

Orange County, San Diego County, City of San Juan Capistrano, and City of San Clemente

The Proposed Project is located primarily in Orange County, the city of San Juan Capistrano, and the city of San Clemente. These local jurisdictions use their municipal ordinance authority to regulate grading, erosion, water discharge, and flood control issues that may affect hydrology and water quality. San Diego RWQCB Water Quality Order R9-2009-0002, NPDES No. CAS0108740, is the MS4 permit for storm water discharges from municipal storm water systems in Orange County, and Water Quality Order R9-2007-0001, NPDES No. CAS0108758 is the MS4 permit for storm water discharges from municipal storm water systems in San Diego County. NPDES requires the municipalities to regulate construction project discharges to their stormwater conveyance systems using their municipal ordinance authority.

The municipalities primarily enforce construction project discharges to their stormwater conveyance systems through grading and other permits. The specific requirements of various municipal departments and outside authorities, such as the Orange County Flood Control District, would be incorporated as permit conditions for the Proposed Project. Requirements include BMPs for erosion control, design features or equipment to control the volume of stormwater runoff generated at the site, and requirements to promote infiltration of stormwater. For construction, these requirements are typically incorporated as BMPs into the SWPPP.

United States Marine Corps Base Camp Pendleton

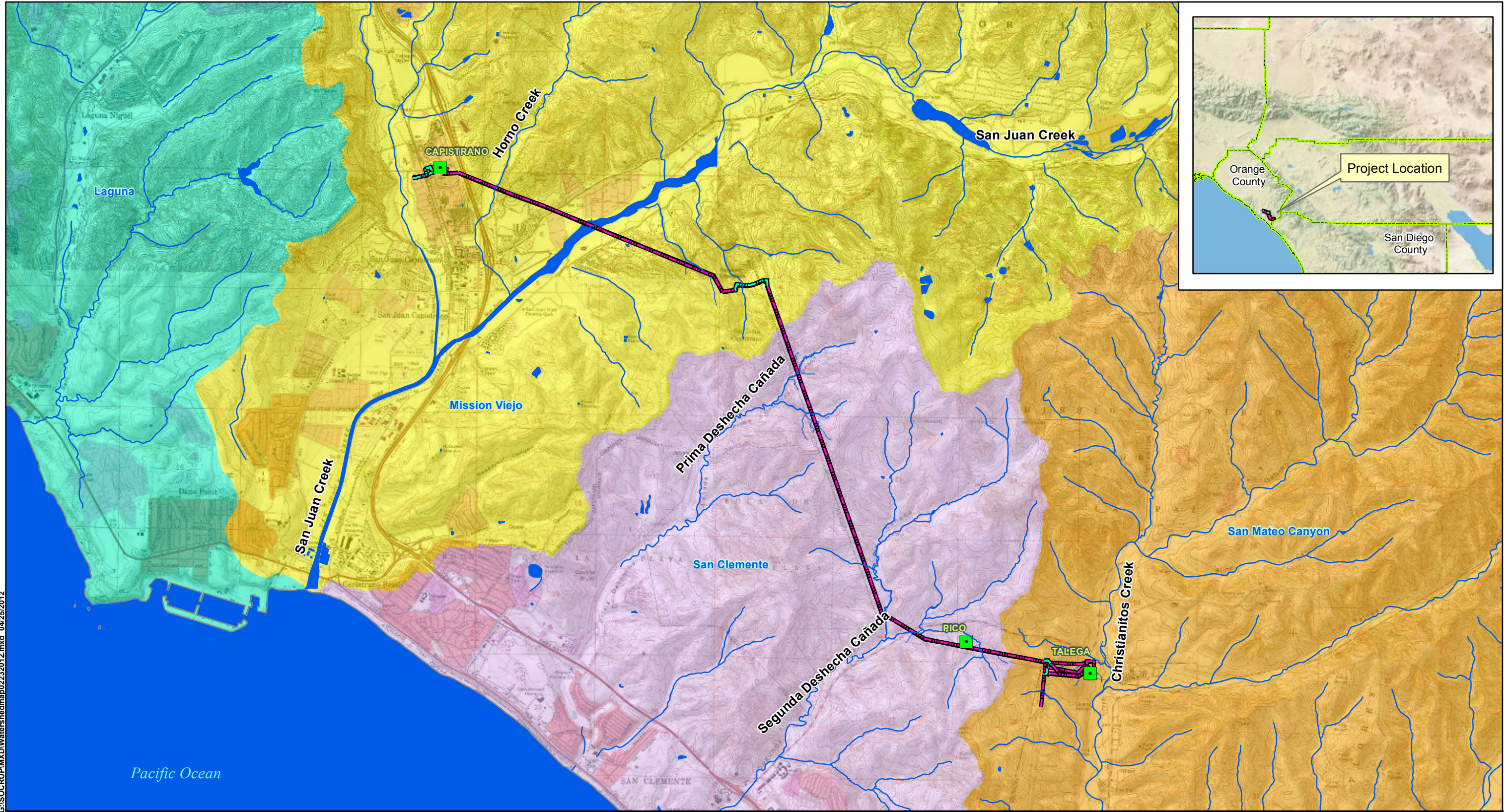
Portions of the Proposed Project would cross land owned by Camp Pendleton. The Proposed Project may therefore be subject to additional water quality protection requirements as a condition for access by Camp Pendleton.

4.8.3.2 Hydrology and Water Quality Setting

Surface Water and Groundwater Resources

Watersheds

The Proposed Project is in the San Juan Hydrologic Unit as defined by the RWQCB's Water Quality Control Plan for the San Diego Basin (Basin Plan). The San Juan Hydrologic Unit covers approximately 500 square miles and spans heavily populated areas, including the city of San Clemente, the city of San Juan Capistrano, and undeveloped and unincorporated areas of Orange County and San Diego County. The Proposed Project crosses three Hydrologic Areas in the Hydrologic Unit: Mission Viejo, San Clemente, and San Mateo. These Hydrologic Areas are shown in Figure 4.8-1, Hydrologic Area, Watersheds, and Drainages.



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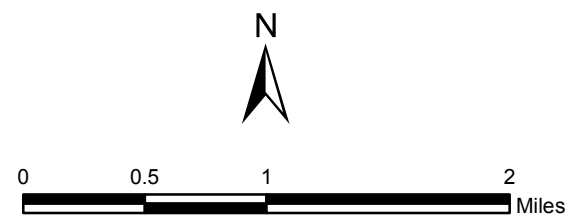
Created For: Mary Turley
 Created By: TRC
 Date: 4/25/2012

SDG&E is providing this map with the understanding that the map is not survey grade.

- Legend**
- Capistrano, Pico and Talega Substations
 - Proposed New Transmission Line - Overhead
 - Proposed New Transmission Line - Underground
 - Water and Drainages

- Hydrologic Area and Watersheds**
- Mission Viejo
 - San Mateo Canyon
 - San Clemente
 - Laguna

Source: USGS Watershed Boundary HUC 12, USGS Hydrography



South Orange County Reliability Enhancement Project

Hydrologic Area, Watersheds, and Drainages



Figure 4.8-1

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Precipitation

Orange County's and San Diego County's climates are generally mild with average temperatures of 65 degrees Fahrenheit in coastal areas and 57 degrees Fahrenheit in inland areas. Most of the precipitation falls from November to February. Average annual precipitation for the Proposed Project area is between 11 to 15 inches per year in Orange County and 10 to 13 inches in San Diego County, and primarily occurs as rainfall.

Groundwater

Most of the Proposed Project area is located in upland terrain with bedrock close to the surface, or in narrow canyons with no substantial alluvial ground water basins. Ground water basins in the Proposed Project area are limited to alluvial fill below drainages. The largest is the San Juan Creek groundwater basin beneath San Juan Creek and its tributaries, in the Mission Viejo Hydrologic Area watershed. Groundwater recharge of the San Juan Creek ground water basin occurs from flow in San Juan Creek and its tributaries and from precipitation. The San Mateo Creek ground water basin in the San Mateo Hydrologic Area watershed is recharged primarily from precipitation and from wastewater treatment plant effluent. The infiltration is through natural reaches and five spreading basins in the stream channel of San Mateo Creek. The San Clemente Hydrologic Area is the smallest of the three watersheds crossed by the Proposed Project and is recharged from local precipitation. Limited alluvial basins occur in the Prima Deshecha and Segunda Deshecha drainages.

In general, the groundwater in these basins is used for municipal and agricultural purposes. Groundwater levels vary with wet and dry weather cycles but are typically shallow and therefore susceptible to pollution. The groundwater is on average range between five and 40 feet below ground surface. The primary water-bearing unit in both basins is Quaternary alluvium, which averages 60 to 65 feet in thickness but may reach more than 125 feet in thickness.

The Basin Plan identifies beneficial uses for ground water in the Proposed Project area to include municipal, agricultural, and industrial use. The Basin Plan defines more limited uses for ground water in the San Clemente Hydrologic Area.

Surface Water

Channels and Creeks

Drainages in the Proposed Project area flow intermittently at most locations due to the seasonal nature of rainfall, the relatively low yearly rainfall totals, and relatively small size of watersheds. Imported water supplies also add flow to each watershed in the form of runoff from urban and agricultural activities. Many watercourses have been altered through straightening and fortification with sand levees or concrete channels for flood control purposes, although large portions of the creeks crossed by the Proposed Project area have been left in their natural condition.

Creeks and drainages that would be spanned by the Proposed Project are shown in Figure 4.8-1 and include:

- San Juan Creek and its Horno Creek tributary, and one unnamed tributary to San Juan Creek;
- Unnamed tributary to Prima Deshecha Canada;
- Segunda Deshecha Canada and unnamed tributaries; and
- Unnamed tributaries to Christianitos Creek.

Water from these creeks and drainages ultimately flows to the Pacific Ocean when enough flow is present. Table 4.8-1, Watersheds and Waterbodies Spanned by the Proposed Project, lists the waterbodies and watersheds that would be spanned by each of the Proposed Project segments.

Table 4.8-1: Watersheds and Waterbodies Spanned by the Proposed Project

Watershed	Project Segment	Creeks and Drainages Crossed
Mission Viejo	Segment 1 (San Juan Capistrano to Rancho San Juan)	San Juan Creek
		Horno Creek (tributary to San Juan Creek)
		Unnamed Tributary to San Juan Creek
San Clemente	Segment 2 (Rancho San Juan)	Rancho San Juan Drainage
	Segment 3 (Rancho San Juan to Talega Hub)	Unnamed Tributary to Prima Deshecha Canada
		Segunda Deshecha Canada
		Unnamed Tributaries (3) to Segunda Deshecha Canada
San Mateo Canyon	Segment 4 (Talega hub to Talega Substation)	Tributaries (3) to Christianitos Creek

Wetlands

The Proposed Project crosses creeks, drainages, and topographic depressions that may have water on the surface during parts of the year. Section 4.4, Biological Resources, provides additional detail regarding the wetland resources crossed by the Proposed Project. In addition, a Jurisdictional Waters and Wetlands Delineation Report was prepared for the Proposed Project and has been included in Appendix 4.4-A.

Reservoirs, Ponds, Lakes

The Proposed Project would not cross any existing open water storage areas.

Surface Water Quality

The Water Quality Control Plan for the San Diego Basin describes water quality objectives for surface water in the Proposed Project area. Wildlife habitat, municipal, industrial, and agricultural supplies, and recreation are among the beneficial uses that the objectives seek to protect. The quality of surface water is affected by stormwater runoff and discharges from industrial, commercial, agricultural, and residential activities in the region. The San Diego RWQCB uses permits and other programs to regulate and reduce pollution of surface waters.

CWA Section 303(d) requires states to develop a list of waterbodies with impaired water quality. The waters on the list are those that do not meet water quality standards even after known point sources of pollution have installed the minimum required levels of pollution control technology. None of the creek segments crossed by the Proposed Project are on the State's Section 303(d) list of impaired waters. Three creeks crossed by the Proposed Project have impaired segments downstream of the Proposed Project: San Juan Creek, Prima Deshecha Creek, and Segunda Deshecha Creek. The State's Section 303(d) list identifies the lower mile of San Juan Creek as impaired for: Dichlorodiphenyldichlorethylene (DDE) (attributed to unknown source); indicator bacteria (attributed to point and nonpoint sources); and phosphorous, selenium, total nitrogen, and toxicity (attributed to unknown point, unknown nonpoint, and urban runoff/storm sewer sources). The lower mile of Prima Deshecha Creek is on the State's Section 303(d) list for cadmium, nickel, phosphorus, and turbidity (attributed to unknown point, unknown nonpoint, and urban runoff/storm sewer sources). The lower mile of Segunda Deshecha Creek is on the State's Section 303(d) list for phosphorus, toxicity, and turbidity (attributed to unknown point, unknown nonpoint, and urban runoff/storm sewer sources).

Stormwater Management and Flooding

Urban areas along the Proposed Project area control stormwater runoff in storm drains and flood channels. Runoff is directed to larger creeks and drainages. In undeveloped areas of the Proposed Project, storm runoff flows along natural drainage patterns.

The Proposed Project crosses the 100-year flood zones of Horno Creek, San Juan Creek, Prima Deshecha Creek, and Segunda Deshecha Creek. The watercourses in Orange County are subject to periodic overflowing, particularly in urban areas where the ground is covered by pavement and other impermeable surfaces, and during periods of sustained or intense precipitation. Due to topography, however, the flood potentials of the creeks crossed by the Proposed Project are localized in nature and do not pose an extensive hazard.

Dam Failure Inundation Areas

The Proposed Project crosses one dam inundation area on San Juan Creek.

4.8.4 Potential Impacts

This section describes potential impacts to hydrology and water resources as a result of the Proposed Project. Potential impacts would be less than significant through implementation of APMs, compliance with regulatory requirements for protection of surface water quality, and implementation of the SWPPP and BMPs.

4.8.4.1 Significance Criteria

Standards of impact significance were derived from Appendix G of the *CEQA Guidelines*. Under these guidelines, the Proposed Project could have a potentially significant impact to hydrology and water quality if it would:

- a) Violate any water quality standards or waste discharge requirements;
- b) Substantially deplete groundwater supplies or interferes substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of 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, 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 to 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 flood hazard delineation map;
- h) Place structures within a 100-year flood hazard area which 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; or
- j) Cause inundation by seiche, tsunami, or mudflow.

4.8.4.2 Question 8a - Violate any water quality standards or waste discharge requirements?

Construction – Less than Significant Impact

Construction of the Proposed Project has the potential to affect surface water quality, and BMPs for water quality protection would apply. Construction would use mechanized equipment requiring fuels and lubricants and involve fabrication of facilities that require hazardous materials such as coatings, adhesives, and solvents. Construction also generates trash and debris. Construction materials such as concrete and drilling mud could impact water quality if released. In addition, construction would disturb soil surfaces and would locally modify soil grades creating a potential for erosion and sediment transport.

Demolition preparations at the existing Capistrano Substation site would include the removal of hazardous materials such as asbestos, lead-based paint, contaminated soil, and insulating oil

(refer to Section 4.7, Hazards and Hazardous Materials), and would disturb soil and generated debris. These materials could impact water quality if released to the environment.

The Proposed Project would disturb more than one acre and therefore requires coverage under an NPDES permit for storm water discharges during construction. SDG&E would obtain coverage under the Construction General Permit and comply with its relevant requirements, including implementation of a SWPPP with BMPs for water quality protection. The Proposed Project would fall under the Linear Underground/Overhead Project (LUP) requirements of the Construction General Permit. LUP activities covered under the Construction General Permit include, but are not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, towers, poles, cables, wires, connectors, switching equipment, regulating equipment, transforming equipment, and associated ancillary facilities). This includes, but is not limited to: underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road construction, pole/tower pad and cable/wire pull stations, substation construction, substructure installation, construction of tower and footings and/or foundations, pole and tower installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

The Construction General Permit requires prevention of unauthorized discharges and implementation of a SWPPP with BMPs needed to prevent discharges from construction activities that would otherwise violate water quality standards. The Construction General Permit further requires inspections, monitoring, and reporting to ensure that BMPs are implemented and effective and modified if needed to ensure protection of water quality. SDG&E would implement BMPs consistent with the Construction General Permit requirements and its *BMP Manual*. The *SDG&E Subregional NCCP* (refer to Section 4.4, Biological Resources) also contains protocols for avoiding and minimizing potential erosion and water quality issues. Specific Construction General Permit requirements for LUPs are provided in the Order and Attachment A. Other than the Construction General Permit, no waste discharge requirements apply to construction of the Proposed Project because no discharges other than stormwater are anticipated.

The Proposed Project would not violate any water quality standard or waste discharge requirement because SDG&E will comply with the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs, and adopt BMPs through the *BMP Manual* and the *SDG&E Subregional NCCP*. Therefore, potential impacts would be less than significant.

Operation & Maintenance – Less than Significant Impact

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated. The Proposed Project's new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur.

Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities, so operations and maintenance activities for the Proposed Project would not materially increase in frequency or intensity. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required.

Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement BMPs consistent with its *BMP Manual* and the *SDG&E Subregional NCCP* and any future revisions to those documents. SDG&E already does this under the existing conditions.

Insulating mineral oil would be present in sealed electrical equipment such as transformers at the Proposed Project's substations. Transformer oil is already present at both existing substations, and its presence would be the same after the substations are rebuilt and/or modified. The amount of transformer oil at the San Juan Capistrano Substation would be substantially more than is present at the existing Capistrano Substation. SDG&E, however, would maintain the current conditions of containing the insulating oil in equipment with secondary containment sized to contain the entire volume of mineral oil. This would prevent any discharge in the event of transformer leakage. SDG&E would also prepare and implement an SPCC Plan and follow the SDG&E Environmental Standards to control containment of transformer oil at the substation site, as is currently the case. There would therefore be no impacts from the routine use of hazardous materials during operation and maintenance of the Proposed Project.

No waste discharge requirements apply to operation and maintenance of the Proposed Project because no discharges are anticipated to occur. The Proposed Project would not violate any water quality standard or waste discharge requirements during operation and maintenance because SDG&E will comply with the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs, and adopt BMPs through the *BMP Manual* and the *SDG&E Subregional NCCP*. Therefore, potential impacts would be less than significant.

4.8.4.3 Question 8b - Substantially deplete groundwater supplies or interferes substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of 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)?

Construction – No Impact

The water demand from construction of the Proposed Project would be minor and short-term, would be met through existing municipal sources, and would not result in new ground water pumping. Surface disturbance would be limited and negligible compared to the affected watershed areas, so there would be no impact on ground water recharge.

Dewatering may be required during construction where localized shallow groundwater is encountered in structure footing excavations or other project excavations. Dewatering may have localized effects on groundwater levels, but the effects would be isolated to a small area due to the short duration of pumping. Dewatering is not expected to affect area wells, which rely on deeper water-bearing zones. Pumped water that is not potentially contaminated with sediments

or other materials would be discharged in accordance with requirements of the Construction General Permit. Construction of the Proposed Project is not anticipated to encounter. The water would be discharged near the extraction location and thereby returned to the local groundwater. Potentially contaminated water would be handled and disposed off site in accordance with applicable state and federal laws. For these reasons, there would be no net deficit in aquifer volume or lowering of the groundwater table and no impact on ground water supplies or recharge.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated. The Proposed Project's new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur. Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities. Operations and maintenance activities for the Proposed Project would therefore not materially increase in frequency or intensity. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required. There would be no net deficit in aquifer volume or lowering of the groundwater table and no impact on ground water supplies or recharge.

4.8.4.4 Question 8c - Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

Construction – Less than Significant Impact

Construction of the transmission line portion of the Proposed Project would result in limited grading that would not substantially alter any existing drainage pattern or alter the course of any stream or river. Most work locations would be accessible using existing access roads. The Proposed Project would require some new small spur roads (i.e., roads from access roads to structure sites), and approximately 23 structure locations would require grading to accommodate construction work. Grading at pole locations would typically be in the range of less than 300 cubic yards of net cut to less than 200 cubic yards of net fill. The largest net cut for pole location grading is less than 1,200 cubic yards, and the largest net fill is less than 800 cubic yards. Grading of new access spur roads and grading at pole locations where needed would require the removing vegetation and disturbing the soil surface, resulting in a possible reduction in the infiltration and absorption capacity of the affected areas. However, new permanent access roads and structure graded pads would not be paved and would be stabilized to allow infiltration and reduce runoff potential.

Alterations to the Talega Substation would not change existing ground surface grades or runoff conditions. Reconstruction of the existing Capistrano Substation would include changes to onsite grading and drainage, but those changes would not substantially alter drainage patterns on- or off-site. The new San Juan Capistrano Substation would be constructed within the existing SDG&E property boundary. The new San Juan Capistrano Substation grading plan includes new on-site storm water control facilities, including an above-ground retention pond. The Proposed Project would implement water quality standards and hydromodification controls consistent with the requirements of the RWQCB and the South Orange County MS4 Permit requirements. Doing so would include construction of hydromodification control BMPs and facilities such as bioswales paralleling the access roads and installation of bioretention facilities, such as open water quality basins and/or subsurface vaults to provide flow duration control of the site runoff to a level consistent with the city of San Juan Capistrano's requirements. The City of San Juan Capistrano would have ministerial review over the grading plan to ensure compliance through the required issuance of a grading permit.

SDG&E designed the Proposed Project's preliminary grading plans to return runoff to existing drainage patterns, and this design would carry through to subsequent final grading plans. SDG&E does not propose any grading in creeks or drainages that could alter the flow. The Construction General Permit would require BMPs to prevent excessive erosion and sediment transport and would also require that disturbed areas be stabilized. The RWQCB would accept the Notice of Termination of the Construction General Permit only after demonstration of stabilization.

Construction of the Proposed Project would not substantially alter existing drainage patterns of the site or area because: (1) the Proposed Project does not include grading in creeks or drainages that would affect flow of water; (2) grading is designed to return runoff to existing drainage patterns without increasing runoff; and (3) erosion protection and sediment control BMPs would be implemented in compliance with the Construction General Permit and SDG&E's *BMP Manual*. Therefore, the impact on existing drainage patterns would be less than significant.

Operation & Maintenance – No Impact

SDG&E currently maintains and operates extensive existing electric transmission, distribution and substation facilities throughout the Proposed Project site. SDG&E's existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated. The Proposed Project's new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur. Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities, so operations and maintenance activities for the Proposed Project would not materially increase in frequency or intensity. Any future maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required

The changes to onsite grading and drainage associated with reconstruction of the San Juan Capistrano Substation would not substantially alter drainage patterns on- or off-site. SDG&E would continue to implement BMPs during grading work and restore and stabilize surface drainage patterns. This would prevent any substantial alteration of the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on or off-site. For these reasons, there would be no impacts relating to substantial alteration of existing drainage patterns of the site or area in a way that would result in substantial erosion or siltation off- or on-site.

4.8.4.5 Question 8d - Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

Construction – Less than Significant Impact

See response to Question 8c, above.

Operation & Maintenance – No Impact

See response to Question 8c, above.

4.8.4.6 Question 8e - Create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Construction – Less than Significant Impact

The Proposed Project's grading plans are designed to minimize grading to the extent consistent with safe and efficient work practices and to return runoff to existing drainages. The Proposed Project would not result in substantial areas of new impermeable surfaces and no material increase in runoff from the Proposed Project's footprint is anticipated. New permanent access roads and structure graded pads would not be paved and would be stabilized to allow infiltration and reduce runoff potential. Alterations to the Talega Substation would not modify existing surface grades or runoff conditions. Reconstruction of the existing Capistrano Substation would include changes to onsite grading and drainage but would not increase runoff from the substation or alter drainage patterns on- or off-site (see response to Question 8c, above). The Proposed Project would not adversely impact the capacity of existing or planned storm water drainage systems because no substantive increase in runoff is expected and grading is designed to return runoff to existing drainages.

SDG&E would comply with the Construction General Permit and would implement a SWPPP with BMPs for water quality protection. The Construction General Permit requires prevention of unauthorized discharges and implementation of BMPs needed to prevent discharges of polluted runoff. The Construction General Permit also requires inspections, monitoring, and reporting to ensure that polluted runoff is not occurring from the construction site.

SDG&E would implement BMPs in accordance with the Construction General Permit and its *BMP Manual*. Construction of the Proposed Project would not be a substantial source of polluted runoff considering the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs. Therefore, potential impacts would be less than significant.

Operation & Maintenance – Less than Significant Impact

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated. The Proposed Project's new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur. Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities, so operations and maintenance activities for the Proposed Project would not materially increase in frequency or intensity. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required

SDG&E would continue to implement its *BMP Manual* to ensure water quality protection and restore and stabilize surface drainage patterns. Therefore, operations and maintenance of the Proposed Project would not affect drainage capacity of existing or planned stormwater drainage systems or cause a substantial additional source of polluted runoff.

4.8.4.7 Question 8f - Otherwise substantially degrades water quality?

Construction – Less Than Significant Impact

Construction of the Proposed Project would comply with the Construction General Permit, which includes BMPs to prevent degradation of water quality from storm water runoff and other permitted discharges. No other discharges to surface or ground water are anticipated during construction. Construction impacts to water quality would be less than significant based on compliance with the Construction General Permit.

Operation & Maintenance – Less than Significant Impact

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated. The Proposed Project's new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur. Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities, so operations and maintenance activities for the Proposed Project would not materially increase in frequency or intensity.

4.8.4.8 Question 8g - Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?

Construction and Operation & Maintenance – No Impact

Because the Proposed Project does not involve the development of housing or other inhabitable structures, there would be no impacts associated with the placement of housing within a 100-year flood hazard area.

4.8.4.9 Question 8h – Place structures within a 100-year flood hazard area which would impede or redirect flood flows?

Construction and Operation & Maintenance – Less Than Significant Impact

The Proposed Project does not include placement of any fill or structures within the 100-year flood hazard area except for Pole Nos. 9 and 10, which are located within the 100-year flood hazard zone adjacent to San Juan Creek. Pole No. 9 is located at the upper edge of the flood zone, and Pole No. 10 is located in a developed area on the flood plain. No grading is proposed at these locations. The poles would not impede or redirect flood flows if inundated due to their small cross-sectional area. Impact on flood flows would be less than significant.

4.8.4.10 Question 8i - 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?

Construction – No Impact

The Proposed Project does not involve housing development or development of facilities that would normally be attended, so there would be a less than significant risk of exposing people in those structures to loss, injury, or death involving flooding. Construction workers would only be within the flood risk areas for very short amounts of time and relocation out of flood risk areas is easily attained at Proposed Project pole locations. Structures and facilities for the Proposed Project would be located outside of the 100-year flood risk areas and the potential dam inundation areas except for Pole Nos. 9 and 10, which are adjacent to San Juan Creek. Pole No. 9 is located at the upper edge of the flood zone and dam inundation zone, and Pole No. 10 is located in a developed area on the flood plain within the dam inundation zone. The poles would not impede or redirect flood flows due to their small cross-sectional area. The impact on flood flows would thus be less than significant.

Structures located within the 100-year flood hazard zone and the potential dam inundation zone would be designed to withstand potential flood inundation without damage to structures. Considering these factors, the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding. Therefore, no impacts would occur.

Operation & Maintenance – Less than Significant Impact

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E’s existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated.

The Proposed Project’s new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur. Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities, so operations and maintenance activities for the Proposed Project would not materially increase in frequency or intensity. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing whether further CPUC approval is required.

The only relevant change from existing conditions is the new locations of Pole Nos. 9 and 10, which would be located within the 100-year flood hazard zone. SDG&E would design the poles and foundations to withstand potential flood inundation without damage. The new locations for Pole Nos. 9 and 10 would be well outside the normal creek channel, and flood inundation would only occur only on occasion and for short intervals. The Proposed Project would therefore not expose people or structures to a significant risk of loss, injury, or death involving flooding. Impacts would be less than significant.

4.8.4.11 Question 8j – Cause inundation by seiche, tsunami, or mudflow?

Construction and Operation & Maintenance – Less Than Significant Impact

There are no bodies of water in the Proposed Project area that are large enough to result in a risk of seiche or tsunami. The closest large body of water is the Pacific Ocean, which is located nearly four miles away and well beyond any potentially foreseeable tsunami run-up. Therefore, no impacts are anticipated related to seiche or tsunami.

Aerial photo analysis indicates that the Proposed Project facilities, which would be almost entirely within existing SDG&E sites and ROW, are not located in areas prone to mudflows. Construction stormwater BMPs would include measures to minimize disturbance to soils and drainage, which would minimize the likelihood of construction contributing to the potential for mudflows. With stormwater BMPs, the risk that the Proposed Project would contribute to the occurrence of mudflows or be affected by a mudflow is less than significant.

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E’s existing operations and maintenance activities are the baseline against which the impacts of the Proposed Project are evaluated. The Proposed Project’s new 230kV transmission lines would merely replace an existing 138kV transmission line along the same route, so regular operations and maintenance activities already occur. Other aboveground facilities associated with the Proposed Project would also be within existing substation properties or in the immediate vicinity of existing transmission facilities, so operations and maintenance activities for the Proposed Project would not materially increase in frequency or intensity. Any future potential maintenance-related construction projects would be evaluated under G.O. 131-D and CEQA for purposes of assessing

whether further CPUC approval is required. As a result, the risk that the Proposed Project would contribute to the occurrence of mudflows or be affected by a mudflow is less than significant.

4.8.5 Applicant Proposed Measures

Impacts to hydrology and water quality would be less than significant based on compliance with existing regulations, permits, and standards, including SDG&E's *BMP Manual* and *Subregional NCCP*. No applicant proposed measures are therefore proposed.

4.8.6 References

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