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4.9 HYDROLOGY AND WATER QUALITY

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			✓	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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 which 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 which would result in flooding on- or off-site?			✓	
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems 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?				✓

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				✓
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j) Cause inundation by seiche, tsunami, or mudflow?			✓	

4.9.0 Introduction

This section describes the existing surface and groundwater hydrology, use, and quality, and the potential for erosion and flooding in the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) area. This section also describes potential impacts to hydrology and water resources from construction, operation, and maintenance of the Proposed Project. The Proposed Project will implement a Storm Water Pollution Prevention Plan (SWPPP), which is required by law. The Proposed Project will also follow SDG&E’s Water Quality Construction Best Management Practices (BMPs) Manual. As demonstrated in the sections that follow, the Proposed Project will have less-than-significant impacts to hydrology and water quality.

4.9.1 Methodology

Water resources and potential impacts to hydrology and water quality resulting from construction, operation, and maintenance of the Proposed Project were evaluated through a jurisdictional delineation survey of the Proposed Project area, as well as a review of the following:

- watershed and groundwater basin maps and basin plans;
- inventories of impaired waterbodies; and
- documents from the California Department of Water Resources and the State Water Resources Control Board (SWRCB).

Federal Emergency Management Agency (FEMA) maps and Dam Inundation Maps were referenced to identify flood hazard zones in proximity to the Proposed Project area, and local plans were reviewed for relevant policies regarding water quality and protection. United States (U.S.) Geological Survey 7.5-minute series quadrangle maps and aerial photography of the Proposed Project area were also examined to identify major water features and drainage patterns.

Hydrological features were then confirmed and additional features were noted during a delineation of potentially jurisdictional waters and wetlands conducted by RECON Environmental, Inc. (RECON), and Chambers Group. Following the guidelines set forth by the U.S. Army Corps of Engineers (USACE), RECON performed a jurisdictional delineation to gather field data at potential wetlands and waters within and adjacent to the Proposed Project area. In order to account for potential impacts and to provide a greater landscape context to sensitive aquatic resources, the Jurisdictional Delineation Survey Area (Survey Area) includes an approximately 150-foot buffer from the center of the power line; an approximately 20-foot buffer on either side of all access roads; and an approximately 50-foot buffer surrounding temporary Proposed Project features, such as staging yards and stringing sites. RECON wetland specialists delineated jurisdictional waters on the approximately 336.8-acre Survey Area on May 14 and 22, 2014. Additional site visits were conducted on July 28 and November 3, 2014 to assess jurisdictional waters within additional Proposed Project areas, and to investigate potential vernal pools. On March 20, 2015 Chambers Group, ICF International, and the SDG&E Aquatic Resource Specialist conducted an additional site visit.

Sites were examined to evaluate the presence of wetlands or drainage channels. In accordance with USACE guidance, potential jurisdictional areas were evaluated for the presence of wetlands, definable channels, ordinary high water marks (OHWMs), and connectivity to a traditional navigable waterway. Additional details on the methodology used to perform the jurisdictional delineation are provided in Attachment 4.9–A: Jurisdictional Delineation Report.

4.9.2 Existing Conditions

Regulatory Background

The following federal, state, and local regulations and policies pertain to hydrology and water quality and are relevant to the Proposed Project.

Federal

Clean Water Act

The Clean Water Act (CWA) (Title 33 of the U.S. Code [U.S.C.] § 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 waters of the U.S. The definition of waters of the U.S., as recently defined in the Clean Water Rule, includes traditional navigable waters, interstate waters, territorial seas, and impoundments of waters of the U.S.; tributaries of waters of the U.S.; waters adjacent to waters of the U.S., including ponds, lakes, wetlands, and similar water features; and waters determined to have a significant nexus to a water of the U.S. (Title 33, § 328.3[b] of the Code of Federal Regulations [CFR]).¹ Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Title 33, § 328.3[c] of the CFR).

¹ The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register on June 29, 2015 and effective August 28, 2015—was issued to ensure that waters protected under the CWA are more precisely defined and predictably determined.

The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point sources and certain non-point source discharges to surface water.

Clean Water Act Section 402

The National Pollutant Discharge Elimination System (NPDES) program was established in 1972 to control discharges of pollutants from defined point sources (33 U.S.C. § 1342). The program originally focused on industrial-process wastewater and publically owned treatment works. In 1987, Section 402 of the CWA was amended to include requirements for five separate categories of storm water discharges, known as Phase I facilities. Phase I facilities include the following:

- facilities already covered by an NPDES permit for storm water,
- facilities that engage in industrial activities,
- large municipal separate storm sewer systems (MS4s) that serve more than 250,000 people,
- medium MS4s that serve between 100,000 and 250,000 people, and
- facilities that are considered significant contributors of pollutants to waters of the U.S.

The U.S. Environmental Protection Agency (EPA) issued a final rule for Phase II discharges in August 1995. Phase II storm water discharges include light industrial facilities, small construction sites (i.e., less than five acres), and small municipalities (i.e., populations of less than 100,000 people).

In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). On August 19, 1999, the SWRCB reissued General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08-DWQ) and, later that year, amended the permit to apply to sites as small as one acre.

On September 2, 2009, the SWRCB adopted Order No. 2009-0009-DWQ (Construction General Permit), which reissued Water Quality Order No. 99-08-DWQ for projects disturbing one or more acres of land, or that are part of a common plan of development or sale that disturbs more than one acre of land where the rainfall erosivity waiver does not apply. The new permit became effective July 1, 2010, whereby all existing dischargers and new dischargers are required to obtain coverage under the new permit by submitting permit registration documents (PRDs).

The Construction General Permit requires the implementation of a SWPPP, which must be prepared before construction begins and kept on site throughout the construction process. In accordance with Water Quality Order No. 2009-0009-DWQ, the SWPPP must include the following:

- identification of pollutant sources and non-storm water discharges associated with construction activity;

- specifications for BMPs that will be implemented during project construction to minimize the potential for accidental releases and runoff from the construction areas, including temporary construction yards, pull sites, and other temporary work areas;
- calculations and design details, as well as BMP controls for site run-on;
- BMPs used to eliminate or reduce pollutants after construction is complete; and
- certification from a Qualified SWPPP Developer.

While the SWPPP lays out the groundwork for compliance with the Construction General Permit, it is also a repository for completed Rain Event Action Plans (REAPs). During construction, the REAP is the site-specific plan that is geared to each specific phase of construction and rain event. The REAP was not previously required under Water Quality Order No. 99-08-DWQ.

The Construction General Permit requires that the site sediment risk be calculated based on rainfall, soil erodibility, and slope. It also requires that the receiving water risk be calculated based on whether the disturbed areas discharge to a 303(d)-listed waterbody that is impaired for sediment or that has a U.S. EPA-approved Total Maximum Daily Load (TMDL) implementation plan for sediment. The receiving water risk must also be calculated based on whether the disturbed areas discharge to a waterbody with a beneficial use of fish spawning, cold freshwater habitat, and fish migration. The result of this analysis determines the combined risk level (i.e., 1, 2, or 3), which dictates the monitoring and reporting requirements.

Clean Water Act Section 404

Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material to waters of the U.S., including wetlands (33 U.S.C. § 1344). The USACE issues individual site-specific permits or general permits (i.e., Nationwide Permits or Regional General Permits) for such discharges.

Clean Water Act Section 401

Under Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters must provide the licensing or permitting agency with a Water Quality Certification (WQC) that the discharge would comply with the applicable CWA provisions or a waiver (33 U.S.C. § 1341). If a federal permit is required (e.g., a USACE permit for dredge and fill discharges), the project proponent must also obtain a WQC from the RWQCB.

Clean Water Act Sections 303 and 304

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. (33 U.S.C. § 1313). Section 304(a) requires the U.S. EPA to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind of effects and extent of effects that pollutants in water may have on health and welfare (33 U.S.C. § 1314[a]). Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may

be employed when numerical standards cannot be established or when they are needed to supplement numerical standards.

Section 303(c)(2)(b) of the CWA requires states to adopt numerical water quality standards for toxic pollutants for which the U.S. EPA has published water quality criteria and which could reasonably be expected to interfere with designated uses in a waterbody.

Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of waterbodies where beneficial uses are impaired. The waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water segments on the lists and develop action plans (i.e., TMDLs) to improve water quality.

Rivers and Harbors Appropriation Act Section 10

Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. § 401 et seq.) makes it unlawful to obstruct or alter a navigable river or other navigable water of the U.S.

Construction, excavation, or deposition of materials in, over, or under such waters—or any work that would affect the course, location, condition, or capacity of those waters—requires a Section 10 permit and approval from the USACE.

National Flood Insurance Program

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain. FEMA allows non-residential development in floodplains; however, construction activities are restricted within flood hazard areas, depending on the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations, enabling FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

State

California Fish and Game Code

Sections 1601 through 1606 of the California Fish and Game Code require a Lake or Streambed Alteration Agreement (LSAA) between the California Department of Fish and Wildlife (CDFW) and an entity proposing to substantially divert or obstruct the natural flow or affect changes to the bed, channel, or bank of any river, stream, or lake. The LSAA is designed to protect the fish and wildlife resources of a river, lake, or stream.

State Water Resources Control Board Order Number 2001-11-DWQ

The SWRCB adopted the Statewide General NPDES Permit for Discharges from Utility Vaults & Underground Structures to Surface Waters (General Permit CAG990002) in 2001. This permit authorizes permittees to discharge uncontaminated water from vaults and substructures to surface waters during the operational phase of projects.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, California Water Code Section 13000 et seq., requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect waters of the State. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the Proposed Project area are contained in the San Diego RWQCB's Basin Plan (Basin Plan).

Local

Because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following analysis of the local regulations relating to hydrology and water quality is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to hydrology and water quality.

San Diego Regional Water Quality Control Board Basin Plan

The San Diego RWQCB (Region 9) is responsible for protecting the beneficial uses of surface water and groundwater resources in the San Diego area. The RWQCB adopted the Basin Plan in September 1994. The plan sets forth implementation policies, goals, and water management practices in accordance with the Porter-Cologne Water Quality Control Act and establishes both numerical and narrative standards and objectives for water quality aimed at protecting aquatic resources. Discharges to surface waters within the approximately 3,900 square miles of the San Diego Basin are subject to the regulatory standards set forth in the Basin Plan, which prevents the unauthorized discharge of pollutants into waters of the U.S. and State. NPDES permits, waste discharge requirements, and waivers are mechanisms used by the RWQCB to control discharges and protect water quality.

San Diego Regional Water Quality Control Board Municipal Storm Water Permit

The San Diego RWQCB issued the San Diego Municipal Permit Order No. R9-2013-0001 (NPDES No. CAS0109266) to the County of San Diego, the San Diego Unified Port District, San Diego Regional Airport Authority, and 18 cities in San Diego County (Co-permittees) with the primary goal of preventing polluted discharges from entering the storm water conveyance system and local receiving and coastal waters. Pursuant to the permit, the Co-permittees are required to develop and implement measures that would address and prevent pollution from development projects. Priority development projects are also required to include BMPs in the permanent design to reduce pollutant discharges from project sites.

County of San Diego Standard Urban Stormwater Mitigation Plan

In order to comply with the San Diego RWQCB's San Diego Municipal Permit (NPDES No. CAS0109266), a Standard Urban Stormwater Mitigation Plan (SUSMP) was developed for San Diego County. A Storm Water Management Plan that complies with the criteria provided in the SUSMP must be developed for applicable priority development projects in San Diego County.

Existing San Diego Gas & Electric Plans

San Diego Gas & Electric Company Subregional Natural Community Conservation Plan

Under Section 10(a) of the federal Endangered Species Act, SDG&E developed a comprehensive multiple species and habitat Natural Community Conservation Plan (NCCP) to effectively preserve and enhance covered sensitive species and their native habitats during operation, maintenance, and expansion of its electric and natural gas transmission system (16 U.S.C. § 1539). The purpose of the NCCP is to establish and implement a long-term agreement between SDG&E, the U.S. Fish and Wildlife Service, and the CDFW for the preservation and conservation of sensitive species and their habitats while allowing SDG&E to develop, install, maintain, operate, and repair its facilities as necessary to provide energy services to customers within SDG&E's service area.

The NCCP identifies 69 Operational Protocols designed to avoid and minimize potential impacts to sensitive (i.e., special-status) species and their habitats, including sensitive hydrological features. These features include drainages, wetlands, and vernal pools. The NCCP is used to comply with the state and federal Endangered Species Act (ESA) and will not be used for construction of the Proposed Project, but will be used for operation and maintenance of the Proposed Project. Specific Operational Protocols will be implemented to ensure that impacts to special-status species and their habitats are avoided or minimized.

A revision to the NCCP was filed in 2004, entitled the SDG&E Subregional Plan Clarification Document, which addressed vernal pool resources located both on and off SDG&E access roads. Vernal Pool Protocols 62 through 69 were designed to minimize and avoid impacts to vernal pools, as described in the Clarification Document for vernal pools and incorporated into the Subregional NCCP. Applicable Vernal Pool Protocols from the Clarification Document include the requirement that a biological monitor be present for construction activities occurring adjacent to vernal pools, and ensuring that vehicles are fueled and maintained at least 100 feet from the nearest vernal pool. Other Vernal Pool Protocols include provisions for personnel training, maintenance, and repair and construction of facilities, including access roads, survey work, and emergency repairs.

Environmental Setting

The Proposed Project occurs within a dissected coastal mesa and canyon system on the southern bank of the Otay River. Topography within the Proposed Project area includes steep canyon slopes, ephemeral drainages, river terraces, vegetated riparian valleys, and coastal clay mesas. The Proposed Project area generally occurs within undeveloped open space, with the exception of minor agricultural uses within the Otay River floodplain. Coastal mesas are either developed (residential) or contain vernal pool complexes of varying size and quality. Larger intact canyon systems within the project area (e.g., Johnson Canyon) generally contain riparian scrub vegetation, while smaller drainage systems in the area typically contain ephemeral drainages or vegetated swales. All drainages and wetlands in the area are within the Otay Valley Watershed and Tijuana Valley Watershed, which are depicted in Figure 4.9-1: Watersheds and Hydrology Overview, and have direct connectivity to the Pacific Ocean, approximately 5.9 miles west of the Proposed Project alignment.

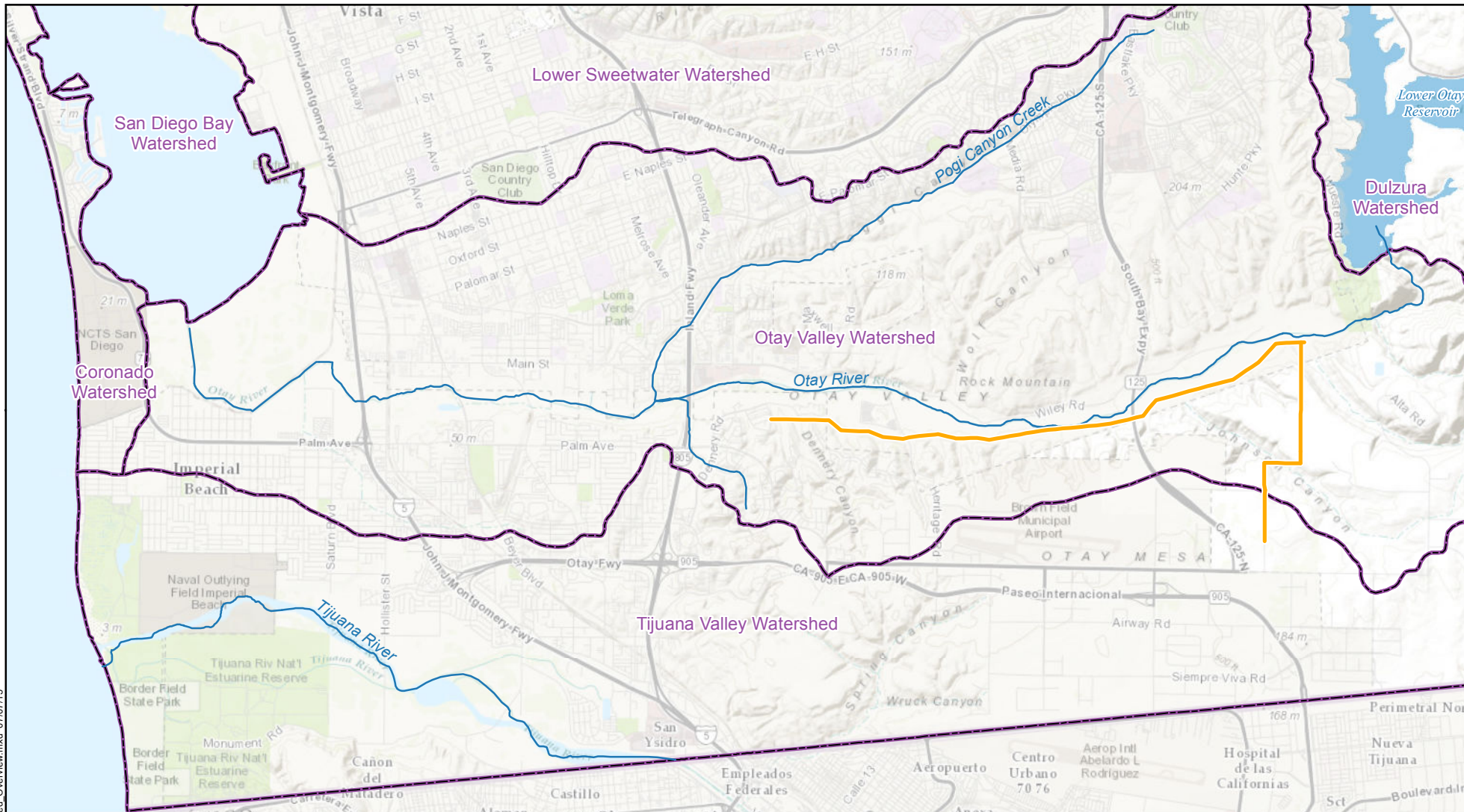
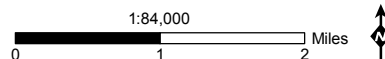


Figure 4.9-1: Watersheds and Hydrology Overview

Tie Line 649 Wood-to-Steel Replacement Project

- Project Location
- Basin/Watershed Boundary
- River



Surface Waters

As described in Attachment 4.9–A: Jurisdictional Delineation Report, the power line ROW crosses numerous non-jurisdictional swales and jurisdictional ephemeral drainages that drain into the Otay River. No drainages were observed within the portion of the Survey Area that is located within the Tijuana Hydrologic Unit. Major streams, rivers, and waterbodies are shown in Attachment 3-A: Detailed Route Map in Chapter 3 – Project Description.

Twenty-one potentially jurisdictional drainages were observed within the Survey Area, all of which are located within the Otay Hydrologic Unit. Twelve non-jurisdictional features were also identified, including nine non-jurisdictional swales, one brow-ditch, and two erosional features.

In addition, vernal pools potentially under the jurisdiction of the USACE and RWQCB were located within the Survey Area. Attachment 4.9–A: Jurisdictional Delineation Report shows the location of vernal pools within the Survey Area. Vernal pools identified within the report are considered both waters of the U.S. and waters of the State, and therefore, are under the jurisdiction of the USACE and RWQCB.

Groundwater

Groundwater basins can be found along major drainages in San Diego County. Groundwater recharge occurs from dam releases and underflow past existing dams. Other sources of recharge may include precipitation, stream flow, and discharges from municipal wastewater treatment plants. Approximately 4.3 miles of the Proposed Project alignment is located within the Otay Valley Groundwater Basin.

The regional groundwater level is expected to be between 18 to more than 100 feet below the site grade. Groundwater was not encountered within the borings or adjacent areas during the geotechnical investigation conducted by Geocon for the Proposed Project (See Section 4.6 Geology and Soils), and groundwater is not expected to significantly impact Proposed Project construction. Slight seepage was encountered in two borings at depths of approximately 18 and 30 feet. Groundwater or perched groundwater could be encountered during construction following heavy rainfall, runoff, and/or irrigation.

Surface Water Quality

The Basin Plan designates beneficial uses for surface and groundwater in the basin, and it also sets narrative and numeric objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state’s anti-degradation policy. Beneficial uses of inland surface waters near the Proposed Project area include municipal and domestic supply; agricultural supply; industrial service supply; contact water recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; and rare, threatened, and endangered species.

According to the San Diego RWQCB’s 2006 CWA Section 303(d) List of Water Quality Limited Segments Requiring TMDLs (303[d]-listed), Pogi Canyon Creek is listed for dichlorodiphenyltrichloroethane (DDT) from unknown sources. The stretch of Pogi Canyon Creek that is 303(d)-listed is located approximately one mile west of and downstream of the Proposed Project where it enters the Otay River. The Lower Otay Reservoir, located

approximately 0.6 mile northeast and upstream of the Proposed Project, is listed for color, iron, manganese, nitrogen, ammonia (total ammonia), and pH (high) from unknown sources. The Tijuana River, located approximately three miles southwest of the Proposed Project, is listed for eutrophic indicator bacteria, low dissolved oxygen, pesticides, solids, synthetic organics, trace elements, and trash from non-point/point sources. No surface water connection to the Tijuana River was observed within the Proposed Project area.

Floodplains

According to FEMA's Flood Insurance Rate Maps, the Proposed Project is located in FEMA Zones AE,² AO,³ and 0.2 Percent Annual Change Flood Hazard (or 500-year flood), as shown in Figure 4.9-2: FEMA Flood Hazards. FEMA Zone A⁴ is also depicted in Figure 4.9-2: FEMA Flood Hazards, but is not crossed by the Proposed Project. The Proposed Project crosses approximately 0.2 mile of 100-year flood zones (Zones AE and AO) and approximately 0.3 mile of 500-year flood zones.

Dam Failure Inundation Areas

The Office of Emergency Services is responsible for the identification of inundation areas for dam failures in California. The Proposed Project is located within an inundation area for dam failure, specifically Savage Dam, which impounds the Otay River approximately 0.6 mile northeast of the Proposed Project. Savage Dam is the terminus for the Second San Diego Aqueduct, which transports imported water from the Colorado River. The dam and reservoir are owned by the City of San Diego.

4.9.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to hydrology and water quality that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, impacts to hydrology and water quality will be considered significant if the Proposed Project:

- Violates any water quality standards or waste discharge requirements

² Zone AE refers to areas that are subject to inundation by a one-percent-annual-chance flood event, as determined by detailed methods.

³ Zone AO refers to areas that are subject to inundation by a one-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Some Zone AO have been designated in areas with high flood velocities, such as alluvial fans and washes. Communities are encouraged to adopt more restrictive requirements for these areas.

⁴ Zone A is also subject to inundation by the one-percent-annual-chance flood event; however it lacks the detailed hydraulic analyses performed for Zone AE and no Base Flood Elevations (BFEs) or flood depths are shown.

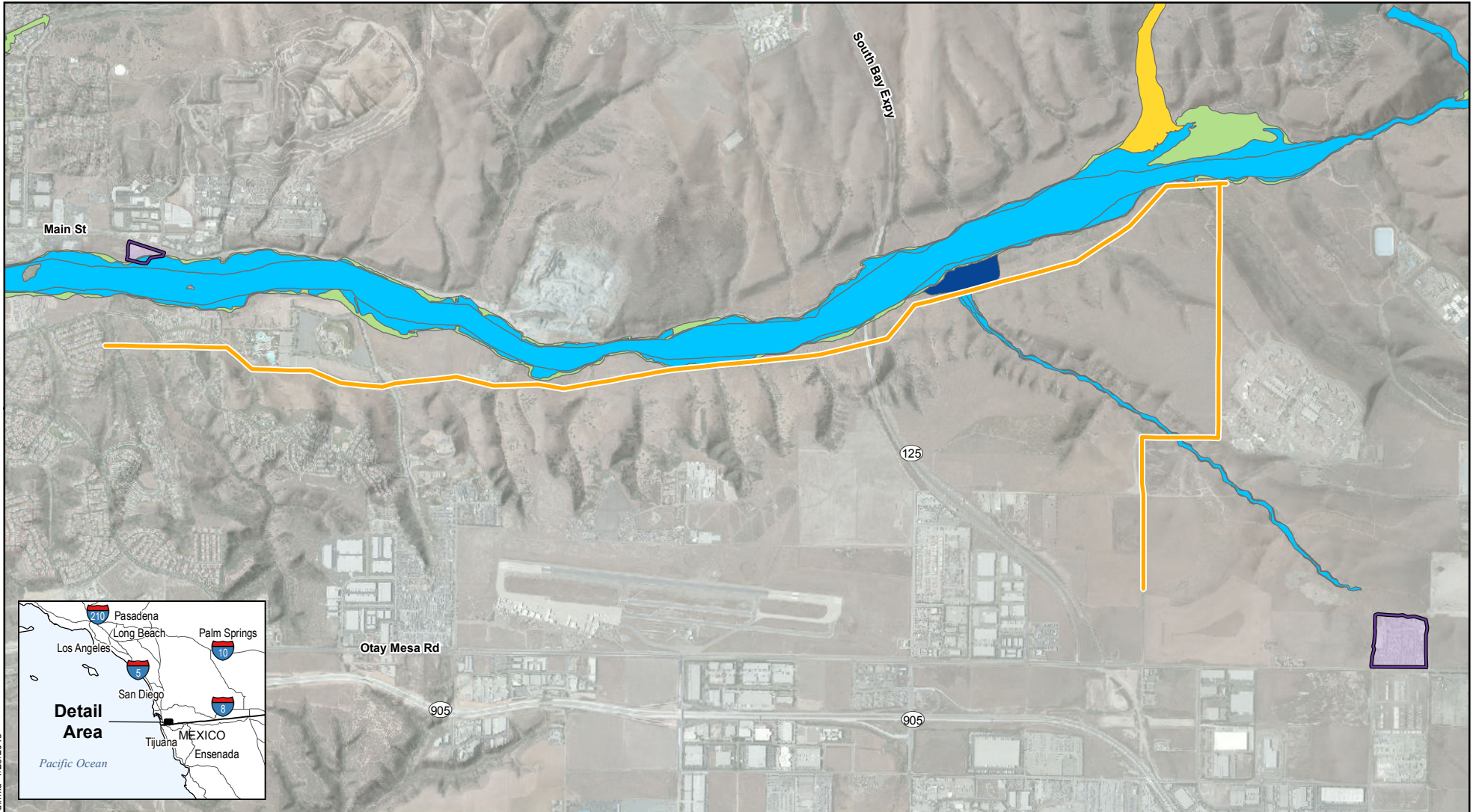
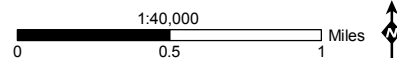


Figure 4.9-2: FEMA Flood Hazards

Tie Line 649 Wood-to-Steel Replacement Project

- Project Location
 - Staging Yard
- FEMA Flood Zones**
- 100-Year Flood Zones**
 - AO
 - A
 - AE
 - 500-Year Flood Zone**
 - 0.2-Percent Annual Chance Flood Hazard



- Substantially depletes 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
- Substantially alters 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 site or off site
- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff in a manner that would result in flooding on site or off site
- Creates or contributes to runoff water that would exceed the capacity of existing or planned storm water drainage systems, or provides substantial additional sources of polluted runoff
- Otherwise substantially degrades water quality
- Places 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
- Places structures that would impede or redirect flood flows within a 100-year flood hazard area
- Exposes 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
- Causes inundation by seiche, tsunami, or mudflow

Question 4.9a – Water Quality Standards and Waste Discharge Violations

Construction – Less than Significant Impact

No permanent or temporary impacts to jurisdictional waters are anticipated as a result of the Proposed Project. Use of existing access roads for the Proposed Project will temporarily increase traffic through disturbed vernal pools located within the roads. SDG&E will implement the NCCP Operational Protocols and Vernal Pool Protocols listed in Chapter 3 – Project Description, as well as the following Project Design Features and Ordinary Construction/Operating Restrictions

- Jurisdictional drainage crossings will be avoided during periods of high flow, as determined by the aquatic resource monitor. After each rain event, drainage crossings will be evaluated for surface flows and ponding by the aquatic resource monitor to determine if a dry-out period of 24 hours or more (full avoidance of the crossing) is required to avoid substantial impacts to the drainage crossings. If it becomes necessary to place a temporary bridge over a jurisdictional drainage during construction, the bridge will be placed over the drainage, spanning the channel from bank to bank, avoiding the ordinary high water mark, and allowing natural flow to continue downstream. An aquatic

resource monitor will be present to provide guidance to the work crew during placement and removal of the bridge to avoid substantial impacts to the drainage.

- Vernal pools (as defined in Attachment 4.9-A: Jurisdictional Delineation Report) will be avoided by the Proposed Project-related activities, with the exception of driving through dry vernal pools. Steel plates may be placed to span over vernal pools to allow Proposed Project-related activities, where feasible.
- When a pole location or staging yard is adjacent to a drainage feature that is jurisdictional for the United States Army Corps of Engineers, RWQCB, or CDFW, the following constraints will apply:
 - An aquatic resource monitor, with the authority to stop work if necessary, will be present on site as needed to ensure minimization and avoidance measures are complied with. Monitoring will be conducted in particular during BMP installation, spot checking during construction, and at the end of construction.
 - Prior to construction activity, the aquatic resource monitor or SDG&E Environmental will provide an Environmental Tailgate to the crew to go over the construction restrictions.
 - If work is conducted at pole locations during the rainy season (October 1 through May 1), before scheduling Proposed Project activities, the weather forecast will be monitored. Work will not be scheduled if a greater than 40 percent chance of rain is forecasted during the time needed to complete the activity. If rain does occur unexpectedly during Proposed Project activities, the site will be secured using BMPs (e.g., fiber rolls) to prevent sedimentation and erosion.
 - Stockpiled material will not be placed within the jurisdictional drainage or where it could be washed into the jurisdictional drainage feature during a storm event. If left overnight, the stockpile will be covered with plastic and secured.
 - Any vegetation that has been mowed or trimmed to provide access or work space will not be discharged within a jurisdictional drainage or placed where it could be washed into a jurisdictional drainage during a storm event.
 - Appropriate BMPs will be used before, during, and after construction to prevent erosion and off-site sedimentation.
 - At the end of construction, all unused construction material and debris will be removed and disposed of appropriately.

As a result, no permanent or temporary impacts to vernal pools are anticipated. A Section 404 Nationwide Permit from the USACE and a Section 401 WQC from the RWQCB are not expected to be required for the Proposed Project.

Water quality standards could be violated by release and transport of hazardous materials, erosion that results in sediment transport, or the discharge of waste. The Proposed Project will result in ground disturbance and expose soils, potentially resulting in increased erosion and sedimentation. These potential impacts are discussed further in the response to Question 4.9c – Drainage Patterns – Erosion/Siltation.

Equipment and construction materials stored within the ROW or staging areas could come in contact with rainwater or storm water runoff that could potentially transport deleterious substances to the nearby Otay River or Tijuana River. Accidental releases of hazardous materials used during construction (e.g., diesel fuel, hydraulic fluid, oils and grease, and concrete) have the potential to occur. Transport of these substances could occur either through overland sheet flow and/or flow through ephemeral drainages that are tributaries to the Otay River or Tijuana River. A list of hazardous materials that are anticipated to be used during construction is included in Table 4.8-1: Hazardous Materials Typically Used During Construction in Section 4.8 Hazards and Hazardous Materials. In addition, storm water contact with litter and/or construction materials could pose a threat to water quality in nearby rivers and streams.

Because the Proposed Project is greater than one acre in size, SDG&E will be required to comply with the Construction General Permit (Water Quality Order No. 2009-0009-DWQ) and submit PRDs to the SWRCB. Under the Construction General Permit, the Proposed Project is anticipated to be considered a Type 1 Linear Underground/Overhead Project (LUP). The monitoring requirements for Type 1 LUPs are less than Type 2 and 3 projects because Type 1 projects have a lower potential to impact water quality. Type 1 LUPs typically do not have a high potential to impact storm water quality because these construction activities are not typically conducted during a rain event; these projects are normally construction over a short period of time, minimizing the duration that pollutants could potentially be exposed to rainfall; and disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered at the end of the construction day..

Projects are considered to have a high receiving water risk if they discharge to a 303(d)-listed waterbody impaired for sediment, have a waterbody with a TMDL plan for sediment, or a waterbody with beneficial uses for cold freshwater habitat, spawning, and migration. Waterbodies in the vicinity of the Proposed Project do not meet these criteria.

Potential impacts to water quality will be minimized through implementation of SDG&E's Water Quality Construction BMP Manual and the SWPPP developed for the Proposed Project. In addition, the results of post-storm inspections and the effectiveness of BMPs will be submitted to the SWRCB in accordance with the Construction General Permit. SDG&E will also comply with local storm water requirements detailed in the County of San Diego SUSMP, as required. As a result, the Proposed Project will result in a less-than-significant impact to compliance with water quality standards and waste discharge requirements.

Operation and Maintenance – Less-than-Significant Impact

Following construction, SDG&E will continue to regularly inspect, maintain, and repair the power line facilities. Operation and maintenance activities for the Proposed Project will be

conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads will be utilized to access the new structures. Because no new roads will be constructed and only minor modifications to existing roads will occur, impacts to water quality standards and waste discharge requirements associated with operation and maintenance of the Proposed Project will be less than significant.

Question 4.9b – Groundwater Depletion or Recharge

Construction – Less-than-Significant Impact

As described in Chapter 3 – Project Description, two to three water trucks, completing an average of two trips per day, are anticipated to be required to deliver water to each active construction area for dust control, compaction, and fire protection. Water will be obtained from a recycled water source, such as the South Bay Water Reclamation Plant, and/or a municipal source, such as the Otay Water District, and will not affect local groundwater supplies. Therefore, the Proposed Project will not substantially deplete groundwater supplies.

SDG&E will remove approximately 132 wood poles and replace them with approximately 117 steel poles; therefore, construction of the Proposed Project will not substantially increase the amount of impervious surfaces in the Proposed Project area. As a result, the rate of groundwater recharge will not be affected. Therefore, the impact will be less than significant.

Operation and Maintenance – No Impact

Following construction, SDG&E will continue to regularly inspect, maintain, and repair the power line facilities, as well as protect against fire. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, there will be no impact to groundwater depletion or recharge during operation and maintenance.

Question 4.9c – Drainage Patterns – Erosion/Siltation

Construction – Less-than-Significant Impact

Erosion and siltation are generally caused by runoff from areas of ground disturbance or from the alteration of existing drainage patterns. Ground disturbance in the Proposed Project area will occur during minor earthwork and vegetation trimming associated with the use of temporary construction work areas and access roads.

The Proposed Project primarily involves the replacement of existing power lines in previously disturbed areas, and existing access roads will be used to travel to work sites and pole locations. Vehicles and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion. Water trucks used during construction to assist with fugitive dust abatement will also have the potential to cause erosion and subsequent sedimentation. In addition, soil compaction—whether intentional or as a result of heavy vehicle and equipment use—can increase surface runoff, which in turn increases the erosion potential.

The majority of the ground disturbance will be temporary in nature and attributed to vegetation trimming and minor earthwork.

Because ground disturbance for the Proposed Project will exceed one acre, SDG&E will obtain coverage under the SWRCB Construction General Permit. In order to obtain coverage under the permit, SDG&E will develop and submit PRDs—including a Notice of Intent, SWPPP, risk assessment, site map, certification, and annual fee—to the SWRCB prior to initiating construction activities. The SWPPP will identify BMPs for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants. These BMPs will then be implemented and monitored throughout the Proposed Project by a Qualified SWPPP Practitioner. The potential for erosion resulting from Proposed Project ground disturbance will be generally temporary, limited, and controlled through the use of BMPs, including soil stabilization in temporary work areas. Therefore, potential impacts resulting from erosion or sedimentation will be less than significant.

During construction, SDG&E will use existing access roads that pass through 12 jurisdictional drainage features. Proposed Project activities include driving through jurisdictional drainage features; however, parking of vehicles, staging of equipment, and the placement of fill will not occur within drainage features. SDG&E will implement the Project Design Features and Ordinary Construction/Operation Restrictions described previously in response to Question 4.9a – Water Quality Standards and Waste Discharge Violations, to avoid substantial impacts to jurisdictional drainages.

In addition, SDG&E will implement BMPs outlined in the SDG&E Water Quality Construction BMP Manual in order to minimize erosion and off-site sedimentation. With the implementation of BMPs, the SWPPP, Project Design Features and Ordinary Operating Restrictions, and NCCP Operational Protocols and Vernal Pool Protocols, any changes to drainage patterns and associated erosion and sedimentation are anticipated to be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities, including implementation of SDG&E's Water Quality Construction BMP Manual and NCCP Operational Protocols and Vernal Pool Protocols. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads will be utilized to access the new structures. Because no new roads will be constructed, there will be no increase in the erosion or sedimentation potential, and impacts associated with operation and maintenance of the Proposed Project will not occur.

Question 4.9d – Drainage Patterns – Runoff/Flooding

Construction – Less-than-Significant Impact

No steel poles or construction equipment will be placed within a drainage. The new steel poles will not be large enough to impede the natural flow of surface water and will not significantly redirect drainage patterns or increase runoff resulting in flooding. Minimal increases in

impermeable surfaces will not substantially increase the existing velocity or volume of storm water flows or elevation either on site or in off-site areas. As such, flow rates and volumes will not be substantially altered. Therefore, existing drainage patterns on site will not change significantly from pre-construction conditions. No flooding is anticipated to occur as a result of the Proposed Project.

As mentioned previously in the response to Question 4.9c – Drainage Patterns – Erosion/Siltation, the Proposed Project will not substantially alter existing drainage patterns. Therefore, construction activities will not substantially alter on- or off-site flow rates or volumes. Because downstream flow rates and volumes will not change substantially, impacts to drainage patterns that will result in flooding will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Drainage patterns will remain unchanged and the Proposed Project will not result in the potential for increased runoff volumes. As a result, there will be no impact on water runoff or flooding.

Question 4.9e – Storm Water Runoff

Construction – Less-than-Significant Impact

During construction of the Proposed Project, existing vegetation may need to be trimmed in temporary construction areas, including construction yards, pole work areas, existing access roads, and stringing sites. These activities have the potential to increase storm water runoff by removing existing vegetation and compacting soils. In general, compaction increases surface runoff when all other factors, such as slope steepness and slope length, remain the same. Installation of poles and the temporary stockpiling of excavated soil surrounding the poles could also increase the potential for storm water runoff. Any remaining material from pole hole excavation will be placed around the holes, spread onto access roads, or removed to an appropriate off-site disposal facility. If contaminated soil is encountered, the material will be hauled off site and disposed of properly in accordance with the Project Design Feature and Ordinary Construction/Operating Restriction described in Section 4.8 Hazards and Hazardous Materials and in Chapter 3 – Project Description. SDG&E will revegetate temporary construction areas in accordance with the NCCP Operational Protocols listed in Chapter 3 – Project Description, the SWPPP, and vegetation management standards.

As described in Chapter 3 – Project Description, where existing access roads are damaged, typical repairs may be made, such as smoothing the access road, stabilizing loose areas, and improving the surface quality of the road. Importing and compacting more stable materials in loose areas, or applying additional surface materials to improve access conditions may also occur in upland areas. These repairs are also intended to reduce storm water runoff that may be occurring to minimize erosion and subsequent sedimentation. Minor earthwork—such as waterbars or rolling dips in accordance with SDG&E’s Water Quality Construction BMP Manual—will also minimize runoff during construction of the Proposed Project.

The use of water for dust- and fire-suppression could increase surface runoff if water is applied in excess and the soil infiltration capacity is exceeded. SDG&E will implement the BMPs outlined in the Proposed Project's SWPPP, including managing water use for dust suppression, so that runoff and off-site sedimentation are minimized.

Construction will introduce new sources of pollutants that can enter storm water and be transported off site. Sources of pollutants are discussed in response to Question 4.9a – Water Quality Standards and Waste Discharge Violations. They may include hazardous materials, such as diesel fuel, hydraulic fluid, oil and grease, as well as typical construction materials, sediment, and trash. In accordance with the Proposed Project's SWPPP, SDG&E will implement BMPs to minimize the introduction of sediment and other pollutants into the storm water system. With the implementation of BMPs, impacts associated with an increase of storm water runoff and the introduction of pollutants to storm water runoff will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The amount of surface runoff is expected to be similar to or less than the existing conditions, and no impact will occur to existing storm water conveyance systems. Steel poles will be exposed to storm water; however, steel poles are not readily soluble or considered to contribute to water quality degradation.

Maintenance activities, such as routine inspections and vegetation management, can introduce pollutants to the site. To prevent vegetation from recurring, SDG&E may apply herbicides around the poles following the mechanical clearing of vegetation. Application of herbicides will be conducted in accordance with the NCCP Operational Protocols and the SDG&E Water Quality Construction BMP Manual to control, contain, clean up, and dispose of any pollutants that may occur during maintenance activities. Because the replacement steel poles will be taller and thus the conductors will be farther from surrounding vegetation, vegetation management will be required less frequently than with the existing wood poles. As a result, impacts from storm water runoff will be less than significant.

Question 4.9f – Water Quality Degradation – Less-than-Significant Impact

Potential sources of pollutants and activities that can contribute to water quality degradation are discussed in detail in the responses to Question 4.9a – Water Quality Standards and Waste Discharge Violations and Question 4.9e – Storm Water Runoff. No other foreseeable sources of pollution are anticipated to be associated with construction, operation, or maintenance of the Proposed Project. As a result, impacts will be less than significant.

Question 4.9g – Housing in Flood Hazard Areas – No Impact

No housing will be constructed as part of the Proposed Project. Therefore, no housing will be placed within flood hazard areas, and no impact will occur.

Question 4.9h – Structures in Flood Hazard Areas

Construction – No Impact

As mentioned previously in the response to Question 4.9d – Drainage Patterns – Runoff/Flooding, no new steel poles are proposed within drainages. Three of the direct-bury steel poles proposed for construction are located within a 100-year flood zone, and three direct-bury steel poles are located within the 500-year floodplain. The remaining project components are outside of both the 100-year and 500-year floodplain.

New steel poles will be more robust than the existing wood poles and will be more capable of withstanding flood flows than the existing wood poles, should flooding occur in the Proposed Project area. The majority of the new poles will be located within 10 feet of the existing poles. The direct-bury steel poles will be approximately 2.5 foot (30 inches) in diameter at the maximum. These poles will not be large enough to impede flood flows. The new steel poles will not redirect flood flows and will not create any new impediments or obstructions within the flood hazard areas. Therefore, there will be no impact.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The structures located within flood hazard areas will remain unchanged during operation and maintenance activities; therefore, there will be no impact.

Question 4.9i – Flood Exposure – No Impact

Construction, operation, and maintenance of the Proposed Project will not expose people or structures to a significant risk of loss, injury, or death due to flooding, as no on- or off-site flood impacts are expected, as described in the response to Question 4.9h – Structures in Flood Hazard Areas. Various portions of the Proposed Project components will be located within dam inundation zones. This includes portions of the Proposed Project that are located downstream of Savage Dam, which impounds the Otay River approximately 0.6 mile northeast of the Proposed Project area. Furthermore, proposed activities will not differ from those already occurring along the existing power lines. No permanent buildings will be constructed in a known 100-year flood zone. Thus, no impact will occur.

Question 4.9j - Flooding, Seiche, Tsunami, and Mudflow – *Less-than-Significant Impact*

The historic record and the distance of the Proposed Project area from the coastline indicate that there is no potential for the Proposed Project area to be inundated by a tsunami. A seiche is a standing wave in a completely or partially enclosed body of water. Areas located along the shoreline of a lake or reservoir are susceptible to inundation by a seiche. High winds, seismic activity, or changes in atmospheric pressure are typical causes of seiches. The size of a seiche and the affected inundation area are dependent on different factors, including the size and depth of the waterbody, elevation, source, and—if man-made—the structural condition of the body of water in which the seiche occurs. Lower Otay Reservoir is located approximately 0.6 mile to the

northeast of the Proposed Project area; however, if a seiche were to occur, it is unlikely to affect structures associated with the Proposed Project given the distance from the waterbody.

Similar to a landslide, a mudflow is a flow of dirt and debris that occurs after intense rainfall, earthquakes, or severe wildfires. The potential for a mudflow to occur depends on the amount of precipitation, the slope steepness, soil type, and soil moisture content prior to the storm event. The Proposed Project will be predominantly located in areas with moderately to steeply sloping terrain, where the potential for a localized shallow landslide is increased. Temporary impacts from construction activities have the potential to increase surface instability, as does permanent site disturbance for the Proposed Project. Minor earthwork will be limited to that necessary to establish a safe work area. Temporary work areas will be restored to approximate pre-construction conditions to the extent practicable once construction activities are completed, thereby limiting the amount of denuded surface soils and minimizing the potential for shallow landslides to occur.

Because the proposed construction methods used will limit ground-disturbing activities that increase the potential for mudflows, the areas that will be potentially impacted by the construction of the power lines are relatively small in scale. In addition, the foundation design of the new structures will minimize risks associated with slope failure or instability, and impacts associated with mudflows will be less than significant.

4.9.4 Applicant-Proposed Measures

Because the Proposed Project will not result in significant impacts to hydrology or water quality, no applicant-proposed measures have been proposed.

4.9.5 References

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