Section 4.10
Hydrology and Water Quality

4.10.1 Overview

This section describes the existing conditions and applicable laws and regulations for hydrology and water quality, and analyzes the potential ~~effects related~~changes to these resources that may result from implementation of the project.

4.10.2 Existing Conditions

This section describes the environmental settings of the project site related to hydrology and water quality.

4.10.2.1 Existing Surface Water Quality Conditions

Surface Water Hydrology

~~-~~The San Diego region is divided into 11 hydrologic units (HUs) that flow from elevated regions in the east to lagoons, estuaries, or bays in the west and feature similar water quality characteristics and issues. A watershed is ~~a large~~an area of land that drains to a common waterway, such as a stream, lake, estuary, wetland, aquifer, or ocean. The project is~~ located~~ within the Lower Sweetwater River (hydrologic unit code [HUC] 1807030409), Upper San Diego River (HUC 1807030405), and the Upper Sweetwater River (HUC 1807030408) ~~(~~sub~~)~~ watersheds, all~~ of which are~~ within the larger San Diego Watershed. Watershed Management Areas (WMAs) are grouped according to HUs, which consist of smaller hydraulic areas/sub-watersheds and have been developed to implement federal and ~~s~~State statutes for the management of water quality in the region. The western portion of the project site is within the San Diego River WMA and the eastern portion is within the San Diego Bay WMA, as shown on Figure 4.10-1~~.~~.

The San Diego River WMA, which covers 277,543 acres, contains the San Diego River, Boulder Creek, El Capitan Reservoir, San Vicente Reservoir, Santee Lakes, ~~Boulder Creek,~~ and Lake Murray. Much of the impounded water in the reservoirs is used to serve population centers within the ~~c~~County. The watershed is drained by the San Diego River, which discharges into the Pacific Ocean between Mission Beach and Ocean Beach in the City of San Diego. The western portion of the project site is within the El Capitan hydraulic area (HA). Approximately 74% of the San Diego River WMA is in the unincorporated ~~county~~area (Project Clean Water 2021a).

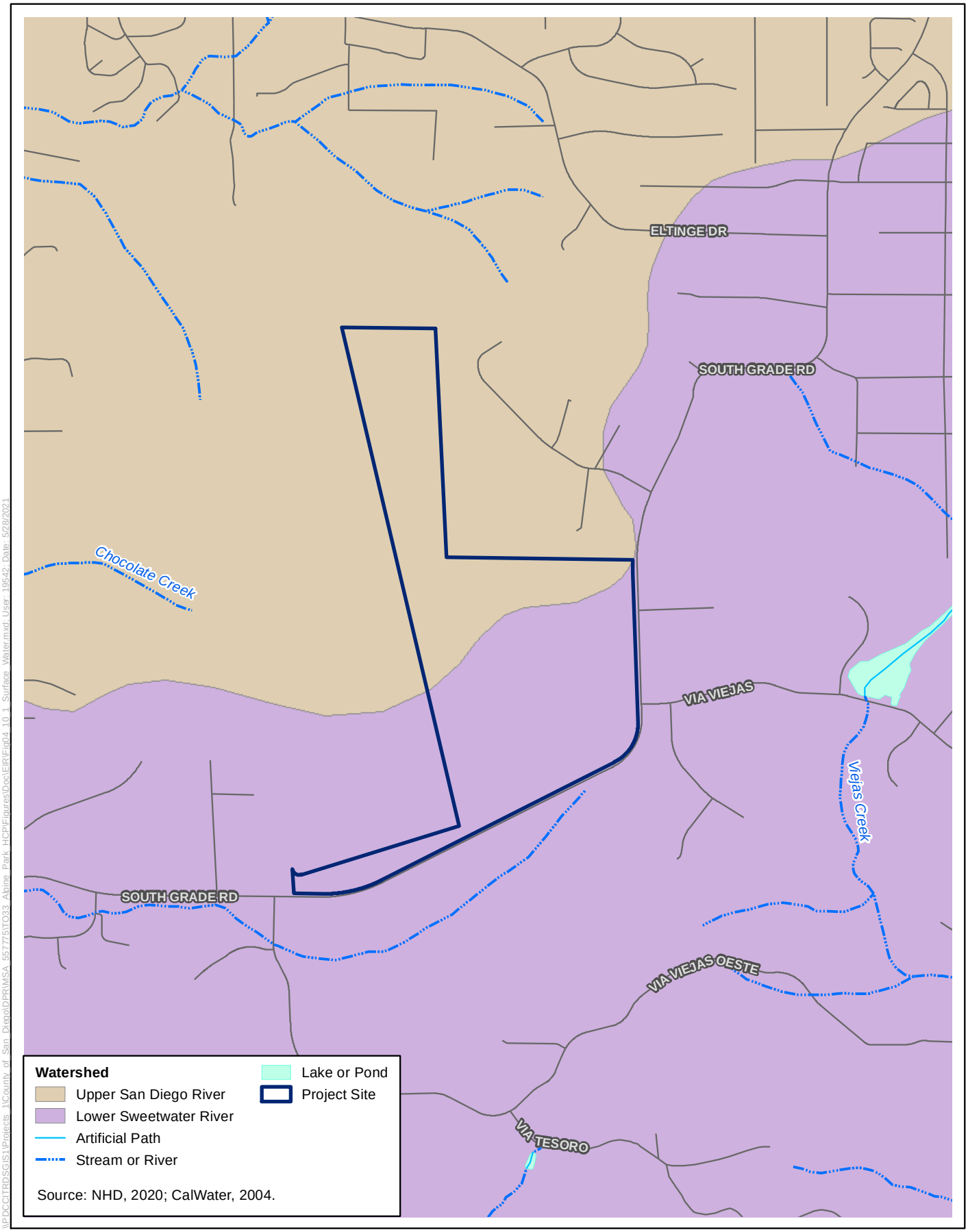

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Figure 4.10-1
Surface Water
Alpine Park Project

The eastern portion of the project site is within the San Diego Bay WMA, which covers 282,580 acres and consists of three major watersheds: Pueblo San Diego, Sweetwater, and Otay. The eastern portion of the project site falls within the Sweetwater Watershed of the San Diego Bay WMA, which encompasses over 148,000 acres. The Sweetwater Watershed includes three hydraulic areas: Lower Sweetwater, Middle Sweetwater, and Upper Sweetwater. The eastern portion of the project site is within the Upper Sweetwater HA. Major water bodies within the Sweetwater Watershed include the Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and San Diego Bay (Project Clean Water 2021b~~).~~.).

The project site is currently undeveloped, and completely pervious. As a result, all runoff sheet flows and infiltrates into the ground. Drainage patterns are influenced by local topography. Topography of the project site and adjacent land is hilly, sloping to the south towards South Grade Road. The project site does not currently contain any stormwater drainage facilities.

Surface Water Quality

The following discussion identifies surface water quality issues facing the two WMAs within which the project site is located. Major ~~issues facing~~impacts on the San Diego River WMA- include surface water quality degradation; habitat degradation and loss; and increased sediment, invasive species, eutrophication, and flooding. Table 4.10-1 includes the water bodies within the project area that are on the Clean Water Act (CWA) 303(d) list. Constituents resulting in water bodies being placed on the CWA 303(d) list include bacterial indicators, phosphorus, and nitrogen (SWRCB 2018). Factors that may impair water quality in the WMA include urban runoff, agricultural runoff, sewage spills, and other natural sources.

The San Diego Bay WMA, which contains the Sweetwater River Watershed, includes water bodies included on the CWA 303(d) list (see Table 4.10-1). Pollutants of concern include aluminum, bacterial indicators, dissolved oxygen, and manganese. Sewer overflows, stormwater runoff, and habitat degradation are all factors that may impair water quality within the San Diego Bay WMA.

The San Diego Basin Plan lists the San Diego River Watershed beneficial surface uses as municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; contact water recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; and wildlife spawning, reproduction, and/or early development. The San Diego Basin Plan lists the Sweetwater River Watershed beneficial surface uses as municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; contact water recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat, spawning, reproduction, and/or early development; and rare, threatened, or endangered habitat (San Diego RWQCB 2016).

Table 4.10-1. Impaired Water Bodies Within the Project Area

Watershed	Water Body Name	303(d) Impairments	Source	Expected TMDL Completion Date
Upper San Diego	Alpine Creek	Indicator Bacteria	Unknown	2029
	Chocolate Creek	Nitrogen, Phosphorus, Indicator bacteria	Unknown	2025, 2023, 2029
Lower Sweetwater River	Loveland Reservoir	Oxygen (dissolved), Aluminum, Manganese, pH	Unknown	2019
	Sweetwater River, North Fork	Indicator Bacteria, Manganese	Unknown	2027, 2025

Source: SWRCB 2018.
TMDL = total maximum daily load= total maximum daily load

Unfiltered and untreated stormwater can contain a number of pollutants that may eventually flow to surface waters. The chief cause of urban stormwater pollution is the discharge of inadequately treated waste or pollutants into the natural water system. Discharge may occur naturally or as a result of human activities. Over recent decades, rapid growth and urbanization have placed increased pressure on water resources and resulted in local impacts on water quality, especially in the densely developed western part of the ~~c~~County. In general, increased urbanization increases the amount of pollutants generated by human activities within a watershed and increases the amount of impervious (paved) surfaces, thus reducing the amount of water that would normally infiltrate into the soil and be filtered naturally.

Pollutants, such as fertilizers and pesticides, motor oil, antifreeze, sediment, heavy metals, bacteria, and viruses, that accumulate on impervious surfaces are easily picked up by rainfall runoff and flow downstream via the stormwater conveyance system to surface waters. The stormwater conveyance system is not connected with the sanitary sewer system; therefore, urban runoff is not filtered to remove trash, cleaned, or otherwise treated before it is discharged to surface waters. The typical result is that pollutants are carried directly into surface water by runoff. Surface waters can be polluted by either point sources or non-point sources. A point source is a single, identifiable source of pollution, such as a pipe or drain. Non-point sources of pollution are often termed diffuse pollution and refer to those inputs and impacts that occur over a wide area and are not easily attributed to a single source.

4.10.2.2 Existing Groundwater Conditions

The ~~c~~County contains three general categories of aquifers: fractured rock aquifers, alluvial and sedimentary aquifers, and desert basin aquifers. The project site contains fractured rock aquifers and alluvial and sediment aquifers but does not contain desert basin aquifers. Due to the underlying conditions, the project site is not within a recognized California Department of Water Resources (DWR) groundwater basin.

Fractured rock aquifers are present in the foothills and mountainous regions of the ~~c~~County, including the project site, where precipitation is higher than in regions with lower elevations. Fractured rock aquifers typically have much less storage capacity than alluvial or sedimentary aquifers. Additionally, due to the low storage capacity, recharge to fractured rock aquifers can cause relatively fast rises to the water table, which conversely can result in relatively fast declines to the water table due to groundwater pumping in years without significant recharge.

Alluvial aquifers are characterized as structural depressions formed by folding and faulting and/or the effects of differential weathering of rocks often creating incised valleys. These depressions, which are typically bounded by relatively impermeable rocks, are subsequently filled by fine-grained alluvial sediments deposited by streams and rivers. Groundwater typically occurs within the pore spaces of these sediments.

Aquifers with limited groundwater in storage (e.g., fractured rock aquifers) may experience shortages from large groundwater users, such as water companies or districts, agriculture, or other large operations. Wells in a fractured rock aquifer typically yield relatively low volumes of water. Wells in an alluvial or sedimentary aquifer often yield higher volumes of water when compared with fractured rock aquifers.

Potable water in the project area is provided by both water districts and groundwater from residential wells. The project site is located within the Alpine and Alpine Heights Groundwater Basins, but would not depend on groundwater ~~for potable use.~~. The project site is within the San Diego County Water Authority (SDCWA) service boundary. While the SDCWA does not directly provide water service, it is a wholesale water supplier to water districts that serve the area. Padre Dam Municipal Water District, a member agency of the SDCWA, would provide water service to the project site.

Groundwater Quality

Historically, groundwater supplies within the ~~c~~County have produced high-quality drinking water. However, naturally occurring and anthropogenic sources of contamination have caused the quality of groundwater to be adversely affected in localized areas. The most common contaminants in groundwater within the ~~c~~County include elevated nitrate~~s~~, naturally occurring radionuclides, total dissolved solids (TDS), bacteria, and petroleum products. Near the project site, there are ~~documented~~ groundwater impacts associated with naturally occurring radionuclides (County of San Diego 2011).

4.10.2.3 Water-Related Hazards

Flooding

Flooding is a general or temporary condition of partial or complete inundation of normally dry land areas. Flooding is commonly associated with the overflow of natural rivers or streams, but can also occur near stormwater facilities, dams, or in low-lying areas not designed to carry water. Flooding can be induced by precipitation or as a result of increased rates and amounts of runoff and altered drainage patterns. As shown on Figure 4.10-2~~,~~, the project site is not located within a floodway; it is located within Zone X, which is defined as an area of minimal flood hazard (FEMA 2012).

Flooding ~~can~~could also result from dam failure, seiches, or tsunamis. Dam inundation is flooding caused by the release of impounded water from ~~a~~ structural failure or overtopping of a dam. ~~The project site is not located in proximity to a dam and therefore is not withina designated County Dam Inundation Zone.~~

Seiches or tsunamis can result from abrupt movements of large volumes of water due to earthquakes, landslides, volcanic eruptions, meteoric impacts, or onshore slope failure. The project site is not within a County Dam Inundation Zone.

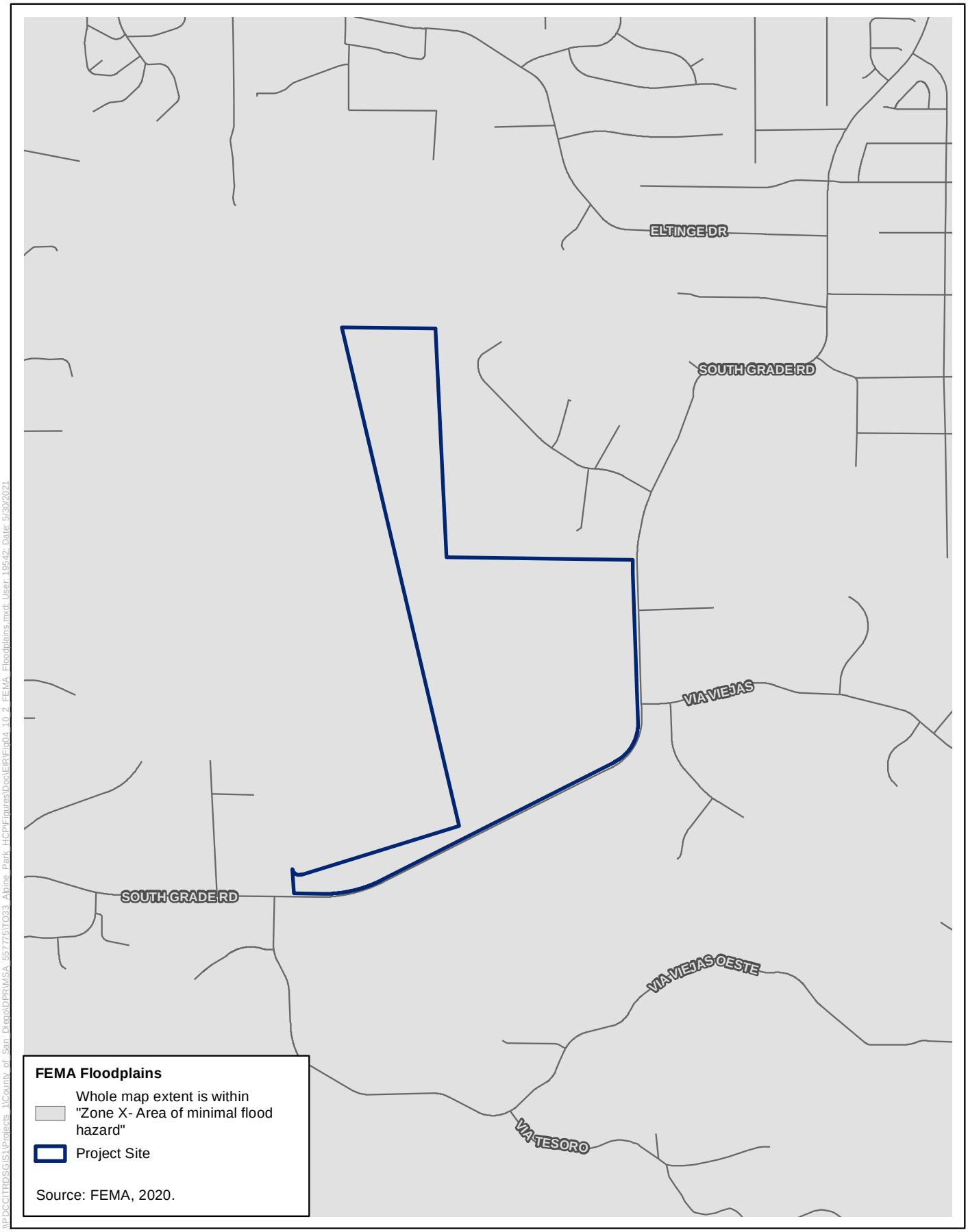

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Figure 4.10-2
FEMA Floodplains
Alpine Park Project

A seiche is a standing wave in a completely or partially enclosed body of water~~, such as a lake or reservoir.~~. Areas along the shoreline of a lake or reservoir are ~~therefore~~ 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 size and depth of the water body; elevation; source; and, if human made, the structural condition of the body of water in which the seiche occurs. The project site is not located near an enclosed body of water where seiche could occur. The project site is approximately 30 miles from the Pacific Ocean (and located in a hilly area) and is therefore not subject to tsunami inundation.

4.10.3 Applicable Laws and Regulations

4.10.3.1 Federal

Clean Water Act ~~(CWA)~~

The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The CWA of 1972 (33 United States Code [USC] 1251–1387) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. The federal CWA of 1977 (33 USC Section 1251 et seq.), which amended the federal Water Pollution Control Act of 1972, established the basic structure for regulating discharges of pollutants into the waters of the United States (not including groundwater). Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained and implemented within compliance. In addition, the CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses.

Section 303: Impaired Water Bodies (303(d) list) and Total Maximum Daily Loads

Under Section 303(d) of the CWA, the State Water Resources Control Board (SWRCB) is required to develop a list of impaired water bodies that do not meet water quality standards (promulgated under the National Toxics Rule [NTR] or the California Toxics Rule [CTR]) after the minimum technology-based effluent limitations have been implemented for point sources. Lists are to be priority ranked for development of a total maximum daily load (TMDL), which is a calculation of the total maximum amount of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The California Regional Water Quality Control Boards (RWQCBs) and EPA are responsible for establishing TMDL waste-load allocations and incorporating improved load allocations into water quality control plans, NPDES permits, and waste discharge requirements. Section 305(b) of the CWA requires that states assess the status of water quality conditions within the state in a report to be submitted every 2 years.

Both CWA requirements are being addressed through the development of a 303(d)/305(b) Integrated Report, which will address both an update to the 303(d) list and a 305(b) assessment of statewide water quality. The current California Integrated Report is the 2014/2016 version,

approved by the EPA on April 6, 2018. The SWRCB developed a statewide 2018 California Integrated Report based upon the Integrated Reports from each of the nine RWQCBs. The 2018 California Integrated Report was submitted to the EPA February 12, 2021 and is still in progress.

All of the 303(d) listed impaired waters with potential to be affected by the project will be evaluated as part of the project, and applicable BMPs and minimization measures identified in the SWPPP prepared for the project would be implemented to protect waters from further water quality impairment.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues flood insurance rate maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. FEMA also publishes a boundary map of flood hazards, including the 100-year floodplain, in those areas in connection with the National Flood Insurance Program. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year. FEMA allows non-residential development in the floodplain; however, construction activities are restricted within the flood hazard areas, depending on the potential for flooding within each area.

4.10.3.2 State

The Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (embodied in the California Water Code) of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the ~~s~~State must adopt water quality policies, plans, and objectives that protect its waters for the use and enjoyment of the people. Under the California Water Code, the State of California is divided into nine regions governed by RWQCBs that, under the guidance and review of the SWRCB, implement and enforce provisions of the California Water Code and the CWA. The project site is located in Region 9, the San Diego Region, and governed by the San Diego RWQCB.

The Porter-Cologne Act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals.

Section 13050 of the California Water Code defines what is considered pollution, contamination, or nuisance. Briefly defined, *pollution* means an alteration of water quality such that it unreasonably affects the beneficial uses of water. *Contamination* means an impairment of water quality to the degree that it creates a hazard to public health. *Nuisance* is defined as anything that is injurious to health, is offensive to the senses, or is an obstruction to property use, and which affects a considerable number of people.

Construction Storm Water Permit and Storm Water Pollution Prevention Plan

Construction activities that disturb 1 acre or more of land must obtain coverage under the SWRCB Construction General Permit (Order 2009-0009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-006-DWQ). Under the terms of the permit, applicants must file complete and accurate Notice of Intent and Permit Registration Documents with the SWRCB. Applicants must also demonstrate conformance with applicable construction best management practices (BMPs) and prepare a construction Storm Water Pollution Prevention Plan (SWPPP) containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP would also include a description of proposed construction activities, along with a demonstration of compliance with relevant local ordinances and regulations, and an overview of the BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

The project would be required to comply with the Construction General Permit because it would disturb over 1 acre during construction.

4.10.3.3 Regional

Water Quality Control Plan (Basin Plan)

The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) as prescribed by the CWA. Section 303 of the CWA requires states to adopt water quality standards that "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives for the waters within a specified area. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control. The project site is located within the jurisdiction of the San Diego RWQCB, and the relevant Basin Plan for the region is the *Water Quality Control Plan for the San Diego Basin.*

Beneficial Uses

The San Diego RWQCB has designated Beneficial Uses and Water Quality Objectives for water bodies under its jurisdiction (San Diego RWQCB 2016). They are defined as the uses of water necessary for the survival or well-being of humans, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals of humankind. Examples include drinking, swimming, industrial, and agricultural water supply, and the support of fresh and saline aquatic habitats (San Diego RWQCB 2016).

Because of the project site's location, the receiving waters include the Sweetwater River, and Loveland Reservoir, the designated beneficial uses of which include the following.

- Industrial Service Supply (IND) includes use of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
- Contact Water Recreation (REC1) includes uses of water for recreational activities that involve body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or the use of natural hot springs.
- Non-contact Water Recreation (REC2) includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Cold Freshwater Habitat (COLD) includes uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- Warm Freshwater Habitat (WARM) includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
- Wildlife Habitat (WILD) includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife, or wildlife water and food sources.
- Industrial Process Supply (PROC) includes uses of water for industrial activities that depend primarily on water quality.
- Municipal and Domestic Supply (MUN) includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
- Agricultural Supply (AGR) includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Water Quality Objectives

The Basin Plan sets narrative and numerical water quality objectives that must be attained or maintained to protect beneficial uses and conform to the ~~s~~State's degradation policy. The water quality objectives are the levels of water quality constituents that must be met to protect the beneficial uses (San Diego RWQCB 2016). Table 4.10-2 includes a summarized list of these water quality constituents that received narrative or numerical concentration objectives. Surface water quality objectives for the El Capitan HA and Upper Sweetwater HA are shown in Table 4.10-3. A complete and detailed list of water quality constituents and objectives can be found in the Basin Plan. Each water quality constituent may result in varied objectives conditional on the beneficial use of the waters.

Table 4.10-2. Water Quality Constituents

Bacteria – Total coliform, fecal coliform, E. Coli, and enterococci	Pesticides
Biostimulatory Substances	pH
Boron	Phenolic Compounds
Chlorides	Radioactivity
Color	Secondary Drinking Water Standards
Dissolved Oxygen	Sediment
Floating Material	Sodium
Fluoride	Sulfate
Inorganic Chemicals	Suspended and Settleable Solids
Iron	Tastes and Odors
Manganese	Temperature
Methylene Blue–Activated Substances	Total Dissolved Solids
Nitrate	Toxicity
Oil and Grease	Toxic Pollutants
Organic Chemicals	Trihalomethanes
~~Pesticides~~	Turbidity

Source: San Diego RWQCB 2016

Table 4.10-3. Surface Water Quality Objectives

	Constituent (mg/L or as noted)												
Surface Water Feature	TDS	Cl	SO_4	% N	N&P	Fe	Mn	MBAS	B	ODOR	Turb NTU	Color Units	F
El Capitan HA	300	50	65	60	a	0.3	0.05	0.5	1.0	None	20	20	1.0
Upper Sweetwater HA	500	250	250	60	a	0.3	0.05	0.5	0.75	None	20	20	1.0

Source: San Diego RWQCB 2016
B = boron; Cl = chlorine; F = fluoride; Fe = iron; HA = hydrologic area; MBAS = methlylene blue activated substances; mg/L = milligrams per liter; Mn = manganese; N = nitrogen; N&P = nitrogen and phosphorus; SO_4 = sulfate; Turb NTU = turbidity (reported in nephelometric turbidity units).

Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems

Dewatering requirements are imposed by the San Diego RWQCB general waste discharge requirements for discharges from temporary groundwater extraction and similar waste discharges (Order No. R9-2015-0013). To obtain coverage under this order, a discharger must submit a complete Notice of Intent application package to the San Diego RWQCB office at least 60 days before proposed commencement of the discharge. ~~The~~ County DPW would be required to maintain compliance with the effluent limitations applicable to the receiving water, as specified in Order No. R9-2015-0013 (refer to Table 5 of the order). In addition, Order No. R9-2015-0013 identifies the monitoring and reporting program requirements. The purpose of the monitoring and reporting program is to determine and ensure compliance with effluent limitations and other requirements established in the order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. The San Diego RWQCB may specify increased monitoring requirements as necessary to ensure that applicable water quality objectives are maintained in the receiving water. Any dewatering or construction-related non-stormwater discharges would be controlled in compliance with the San Diego RWQCB permit for dewatering. The permit requires permittees to conduct monitoring of dewatering discharges and

adhere to effluent and receiving water limitations contained within the permit so that water quality of surface waters is protected.

On June 19, 2012, the SWRCB adopted Resolution No. 2012-0032, the Onsite Wastewater Treatment Systems (OWTS) Policy, which establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. In accordance with California Water Code Section 13290 et seq., the OWTS Policy sets standards for OWTS that are constructed or replaced, that are subject to a major repair, that pool or discharge waste to the surface of the ground, and that have affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking water or other uses, or cause a health or other public nuisance condition. The OWTS Policy also includes minimum operating requirements for OWTS that may include siting, construction, and performance requirements; requirements for OWTS near certain waters listed as impaired under Section 303(d) of the CWA; requirements authorizing local agency implementation of the requirements; corrective action requirements; minimum monitoring requirements; exemption criteria; requirements for determining when an existing OWTS is subject to major repair; and a conditional waiver of waste discharge requirements. The SWRCB approved the San Diego RWQCB's Nitrate/OWTS Policy Basin Plan amendment on November 17, 2015. The Office of Administrative Law approved the RWQCB's Nitrate/OWTS Policy Basin Plan amendment on May 17, 2016.

4.10.3.4 Local

Phase I Regional Municipal Separate Storm Sewer System (MS4) Program

The San Diego RWQCB regulates discharges from Phase I municipal separate storm sewer systems (MS4s) in the San Diego Region under the Regional MS4 Permit. The Regional MS4 Permit expired on June 27, 2018, but remains in effect under an administrative extension until it is reissued by the San Diego RWQCB. The Regional MS4 Permit covers 39 municipal, county government, and special district entities (referred to jointly as copermittees) located in ~~San Diego~~the County, southern Orange County, and southwestern Riverside County who own and operate large MS4s that discharge stormwater runoff and non-stormwater runoff to surface waters throughout the San Diego region.

The MS4 Permit establishes separate performance standards for (1) source control and site design practices, (2) stormwater pollutant control BMPs, and (3) hydromodification management BMPs. Each development project must be designed to satisfy any of several potentially applicable performance standards. Performance standards are specific design objectives to be achieved through the implementation of BMPs.

County of San Diego Jurisdictional Runoff Management Program

The County's Jurisdictional Runoff Management Program (JRMP), approved on July 26, 2015, was prepared in response to regulatory requirements adopted by the RWQCB. The purpose of the JRMP document is to guide implementation of programs and strategies to reduce pollutants discharged from the County's storm drain system to receiving waters.

The goal of the JRMP is to establish a programmatic framework for the implementation of stormwater management activities in accordance with Water Quality Improvement Plan strategies and other jurisdictional plans, design standards, and ordinances. By providing and implementing

programs for new land development and redevelopment projects, impacts on receiving waters and other environmental resources are minimized. The JRMP also complies with federal and ~~s~~State laws.

County of San Diego BMP Design Manual

Updated in September 2020, the County's *BMP Design Manual* guides land development and public improvement projects in the unincorporated area to reach compliance with the Regional ~~Municipal Separate Storm Sewer System (~~MS4~~)~~ Permit and reduce the discharge of pollutants in stormwater to the maximum extent practicable (County 2020). It is focused on project design requirements and related post-construction requirements and provides guidance on which stormwater management requirements apply to a given project; defines the performance standards for source control and site design BMPs, stormwater pollution control BMPs, and hydromodification management BMPs based on the Regional MS4 Permit; outlines the required steps to the comprehensive stormwater management design process; contains the source control and site design requirements applicable to all development; outlines the process of determining which category of onsite pollution control BMP or combination of BMPs is most appropriate for a given project and how those BMPs should be designed; provides guidance for meeting the performance standards for the two components of hydromodification management: protection of critical coarse sediment yield areas and flow control for post-project runoff; and describes the long-term maintenance requirements for structural BMPs.

The *BMP Design Manual* established the minimum BMP requirements applicable to all development projects, regardless of size or type. These measures include general BMP siting, source control BMPs, and site design BMPs. The County's 2013 MS4 Permit requires copermittees to impose additional requirements on those projects considered Priority Development Projects (PDPs), which are required to comply with structural BMP performance requirements specified in the *BMP Design Manual*. These additional requirements focus on retention of the 85th percentile storm event. If onsite retention is not feasible, other alternatives are available, including partial retention and biofiltration. PDPs are also required to comply with hydromodification management BMP requirements, as specified in the *BMP Design Manual*, which address flow duration impacts and critical sediment yield areas. All projects must meet the following general requirements:

- Onsite BMPs must be located so as to remove pollutants from runoff prior to its discharge to any receiving waters, and as close to the source as possible;
- Structural BMPs must not be constructed within waters of the U.S.; and
- Onsite BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g., mosquitos, rodents, or flies).

All projects must complete a Storm Water Intake Form to determine if they are a development project and to assess their priority and project type. The Storm Water Intake Form determines which type of Stormwater Quality Management Plan (SWQMP) Form is required for each development project.

Baseline Source Control and Site Design BMPs must be implemented for all development projects wherever it is applicable and feasible to do so. These BMPs help to prevent the onsite generation of pollutants and flows and to keep them from leaving the site. Source control BMPs and site design practices must be implemented at all development projects where applicable and feasible.

An Enhanced Site Design BMP is any site design BMP used specifically to reduce the Design Capture Volume (DCV) within a Drainage Management Area (DMA). This can be achieved either by adjusting

the impervious runoff factor of one or more surfaces or by implementing BMPs that receive and mitigate a portion of the DCV. Because DCV reduction is not required, this performance standard is optional.

However, implementation of Enhanced Site Design BMPs is strongly encouraged for all PDPs as a means of reducing or eliminating the need for other, more complex or costly BMPs needed to satisfy Structural Performance Standards for the remaining DCV.

Structural Performance Standards are numeric design standards for reducing or eliminating stormwater flows and pollutant loads from PDP sites. They specifically address the remaining volume of runoff within a DMA (either the DCV or a greater volume) after the application of all other site design and source control BMPs described above. Storm Water Pollutant Control BMPs for PDPs must meet the appropriate performance standards.

For many PDP sites, additional BMPs may be needed to preserve the supply of critical coarse sediment to water bodies. Any PDP that is not exempt from hydromodification management requirements must either comply with critical coarse sediment requirements or demonstrate that they do not apply.

County of San Diego Low Impact Development Handbook

The County's *Low Impact Development Handbook—Stormwater Management Strategies* (County DPW 2014) was created in 2007 and updated in July 2014 by a multidisciplinary Technical Advisory Committee. The goal of the County Low Impact Development (LID) Program is to protect water quality by preserving and mimicking natural hydrologic functions through the use of stormwater planning and management techniques on a project site. The purpose of the *LID Handbook* is to provide a comprehensive list of LID planning and stormwater management techniques for developers, builders, contractors, planners, landscape architects, engineers, and government employees as guidance to reference before developing a project site. The document serves as a guidance document for the planning, application, design, and maintenance of LID BMPs. LID feasibility and applicability criteria and specific LID requirements are specified in the *BMP Design Manual*.

County of San Diego Code of Regulatory Ordinances Sections 67.801–67.814, Watershed Protection, Stormwater Management, and Discharge Control Ordinance

The current Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) was adopted in March 2008 and amended in January 2016. The stated purposes of this ordinance are to protect the health, safety, and general welfare of ~~county~~ residents in the unincorporated area; to protect water resources and improve water quality; to cause the use of management practices by the County and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the State; to secure benefits from the use of stormwater as a resource; and to ensure the County ~~of San Diego~~ is compliant with applicable ~~s~~State and federal law. The WPO contains discharge prohibitions and requirements that vary depending on type of land use activity and location in ~~the county.~~San Diego County. The WPO defines the requirements legally enforceable by the County in its unincorporated areas.

In accordance with the WPO, the County requires the development of a SWQMP to be submitted with discretionary and ministerial permit applications. The purpose of the SWQMP is to mitigate

stormwater impacts by identifying effective permanent BMPs for implementation. The SWQMP review process takes into account the project location, receiving water quality, anticipated project impacts and associated pollutants, and mitigation for impacts with the selection of BMPs. The SWQMP provides needed information to address both stormwater and non-stormwater issues. The Preliminary Grading Plan and Preliminary Hydrology/Drainage Study are an integral part of the SWQMP and provide the technical basis for the SWQMP. The SWQMP requires, but is not limited to, the following elements:

- Water quality pollutants of concern, treatment volume based on water quality design storm, site plans and adjacent land use, and soil characteristics.
- Mitigation measures to protect water quality, pollution prevention BMPs (maximum extent practicable [MEP] Based), site design BMPs, source control BMPs, LID BMPs, and structural treatment BMPs.
- Mitigation measures to prevent increases in downstream erosion to MEP, site design BMPs, source control BMPs, LID BMPs, and structural treatment BMPs.
- Any infiltration BMPs proposed for use on site.
- Agreements, easements, and licenses relating to proposed BMP construction, location, maintenance, or changes in drainage character.

As defined in the WPO, each project is required to implement measures to ensure that (1) pollutant discharges and runoff flows from development are reduced to the maximum extent practicable, (2) receiving water quality objectives are not violated throughout the life of the project, and (3) runoff flows from development are managed to reduce erosive forces that may impact surface water beneficial use and/or habitat.

The WPO also contains LID requirements. LID is a stormwater management approach that maintains the natural hydrologic character of a site or region by using design techniques that infiltrate, filter, store, evaporate, and detain runoff on site. A *LID Handbook* was developed in December 2007 by ~~the~~ County DPW to provide the development community with guidance on implementing LID strategies and practices (County DPW 2014). The WPO has incorporated LID site design BMP requirements in Section 67.806, General Best Management Practice Requirements, to be applicable to all development projects with the potential to add pollutants to stormwater or to affect the flow rate or velocity of stormwater runoff. This requirement defines the general standard for LID site design. The more explicit LID site design requirements for PDPs have been included in Section 67.810/67.811, Additional Planning, Design and Post-Construction Requirements for Development Projects. The *BMP Design Manual* includes a discussion of LID Site Design requirements.

All construction sites determined to be a land disturbance activity, as defined in the WPO, are required to meet General BMP Requirements (Attachment 2.2 of Section 67.806) and the Additional BMP Requirements for Construction Projects (Section 67.809). Section 67.806 (Attachment 2.2) of the WPO includes the list of general BMP requirements applicable to all dischargers. Section 67.809 (Attachment 2.2) of the WPO includes the list of additional BMPs to be implemented and maintained for construction projects. At a minimum, the County has determined that the following pollution control practices be adequately implemented and maintained year-round on all non-exempt projects:

- Project Planning.
- Good Site Management “Housekeeping,” including waste management.

- Non-stormwater Management.
- Erosion Control.
- Sediment Control.
- Run-on and Run-off Control.
- Active/Passive Sediment Treatment Systems, where applicable.
- Any other construction BMPs suggested by the applicable Water Quality Improvement Plan and deemed to be effective at controlling erosion and sedimentation.

Disturbed soil areas are considered active whenever soil-disturbing activities have occurred, continue to occur, or will occur during the ensuing 14 days. Non-active areas must be protected within 14 days of cessation of soil-disturbing activities or prior to the onset of precipitation, whichever occurs first.

County of San Diego Code of Regulatory Ordinances Section 91.1.105.10, Flood Damage Prevention Ordinance

This ordinance was established to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas throughout the County ~~of San Diego.~~ This ordinance defines methods to accomplish the goals of reducing flood losses, including: restricting uses which are dangerous to health, safety, and property due to erosion or water hazards; requiring uses vulnerable to floods to be protected against flood damage at the time of construction; controlling the alteration of natural flood plains; controlling filling, grading, or dredging, which may increase flood damage; and preventing construction of flood barriers that will divert flood waters or increase flood hazards in other areas.

4.10.4 Project Impact Analysis

4.10.4.1 Methodology

The project includes the development of Alpine Park and associated trails (an active park) as well as the conservation of approximately 70 acres of open space ~~/preserve~~. The analysis that follows evaluates the project's effects on existing hydrology and water quality conditions. Based on these existing conditions, the analysis assesses the direct and indirect impacts related to hydrology and water quality using the thresholds presented below.

4.10.4.2 Thresholds of Significance

Appendix G of the ~~State~~ CEQA Guidelines

The following significance criteria are based on Appendix G of the ~~State~~ CEQA Guidelines and provide the basis for determining the significance of impacts associated with hydrology and water quality resulting from implementation of the project. The determination of whether a hydrology and water quality impact would be significant is based on the professional judgment of ~~the~~ County DPR as lead agency supported by the evidence in the administrative record.

Impacts are considered significant if the project would result in any of the following:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:

   (i) result in substantial erosion or siltation on-or off-site;

   (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or ~~offsite~~off-site.

   (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

   (iv) impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

County of San Diego Guidelines for Determining Significance

The CEQA thresholds provided by the *County of San Diego Guidelines for Determining Significance for Hydrology and Water Quality* (County of San Diego 2021) state that a project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on hydrology, absent specific evidence of such an effect. The following questions were developed as guidance to address the questions listed in the ~~State~~ CEQA Guidelines, Appendix G, VIII. Hydrology and Water Quality:

1. The project will 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.
2. The project will increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River and Otay River, 2/10 of a foot or more in height.
3. The project will result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.
4. The project will result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.

5. The project will place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following:
    a. Alter the Lines of Inundation resulting in the placement of other housing in a 100 year flood hazard; OR
    b. Increase water surface elevation in a watercourse with a watershed equal to or greater than 1 square mile by 1 foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River and Otay River 2/10 of a foot or more in height.

4.10.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the project <u>would not</u> violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

County Park and Trails

Impact Discussion

Construction

Construction of the project would include activities that would disturb surface soils, such as grading, leveling, and trenching. During construction, approximately 21.75 acres of grading would occur at the project site and approximately 47,200 cubic yards of soil would be excavated. Exposed soils have the potential to temporarily increase the amount of sediment in runoff from the project site during a storm event. Project construction would also involve use of motorized heavy equipment such as trucks and dozers that require fuel, lubricating grease, and other fluids. Accidental chemical release or spill from a vehicle or equipment could affect surface water. These construction activities could also generate dust, settlement, litter, oil, and other pollutants that could temporarily contaminate water run-off from the project site.

Other potential water quality impacts include chemical spills into storm drains or groundwater aquifers if proper minimization measures are not implemented. However, required BMPs would be implemented to reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control to treatment of polluted runoff. BMPs can include watering active construction areas to control dust generation during earthmoving activities and installing erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, and sandbag dikes) to prevent silt runoff to public roadways or waterways. As appropriate, disturbed soil would be revegetated as soon as possible with the appropriate selection and schedule of plants.

The project would disturb over 1 acre of land; therefore, it would be required to obtain an NPDES General Construction Permit from the SWRCB. Compliance with the General Construction Permit would require the preparation of a SWPPP for the project site. The SWPPP would identify potential pollutants and outline the BMPs that would be implemented during construction activities to prevent those pollutants from entering nearby water bodies.

In addition, the project would be subject to the County's existing regional waste discharge requirements. Under the requirement the project site would be required to implement site design measures and/or source control BMPs and/or treatment control BMPs to reduce potential pollutants to the maximum extent practicable from entering stormwater runoff that would be consistent with the County's JRMP and *BMP Design Manual.* These measures would enable the project to meet waste discharge requirements for discharges to surface water as required.

During onsite grading and construction activities, hazardous materials (e.g., fuels, paints, solvents, concrete additives, etc.) could be used and therefore would require proper management and, in some cases, disposal. The management of any resultant hazardous wastes could increase the opportunity for hazardous materials releases into groundwater. However, compliance with all applicable federal, ~~s~~State, and local requirements concerning the handling, storage, and disposal of hazardous waste would effectively reduce the potential for the construction of the project to release contaminants into groundwater that could result in groundwater contamination or cause the violation of regulatory water quality standards.

Discharge of groundwater into storm drains and receiving waters has the potential to significantly affect water quality. No groundwater dewatering is anticipated for construction of the project that could impact groundwater quality. However, in the event groundwater dewatering is required, the project would comply with dewatering requirements imposed by the San Diego RWQCB general waste discharge requirements for discharges from temporary groundwater extraction and similar waste discharges (Order No. R9-2015-0013). Compliance with the applicable dewatering permit would further ensure that the impacts of these discharges would be less than significant.

Operation

During operation, one proposed wastewater option includes the discharge of domestic waste to an OWTS. Discharged wastewater must conform to the RWQCB's applicable standards, including the Regional Basin Plan and the California Water Code. California Water Code Section 13282 allows RWQCBs to authorize a local public agency to issue permits for OWTS "to ensure that systems are adequately designed, located, sized, spaced, constructed and maintained." The RWQCBs has authorized Department of Environmental Health and Quality (DEHQ) to issue certain OWTS permits throughout the ~~county and within the incorporated cities.~~County. DEHQ will review the OWTS layout for the project pursuant to DEHQ, Land and Water Quality Division's, On-site Wastewater Systems: Permitting Process and Design Criteria. DEHQ would also be the approving body for the project's OWTS. Therefore, if implemented, the onsite sewer advanced treatment system would not violate waste discharge requirements, as determined by the RWQCB-authorized local public agency, DEHQ.

The site for the proposed active park encompass~~es~~ approximately 25 acres, which is currently ~~a~~ pervious area. The project would ~~change~~alter approximately 7.8 acres of the active park site to ~~become~~ impervious areas (Howard Pierce 2021). Most of the~~ created~~ impervious surface is associated with the proposed parking areas. Typical pollutants associated with parking include heavy metals. Increased runoff from the new impervious surfaces would contribute to non-point source pollution in surface water. None of the existing impairments in nearby water bodies are related to heavy metals (i.e., the pollutant typical of parking areas). Stormwater retention basins would be located throughout the park. The basins would manage and treat stormwater and reduce polluted stormwater runoff from being conveyed into receiving waters.

As identified in Section 4.10.3, *Applicable Laws and Regulations*, the County's JRMP, *BMP Design Manual*, *LID Handbook*, and WPO require each project to implement measures to ensure that (1) pollutant discharges and runoff flows from development are reduced to the maximum extent practicable, (2) receiving water quality objectives are not violated throughout the life of the project, and (3) runoff flows from development are managed to reduce erosive forces that may impact surface water beneficial use and/or habitat. In accordance with the WPO and *BMP Design Manual*, the County requires the development of an SWQMP to mitigate stormwater impacts by identifying effective LID features and permanent BMPs for implementation. The SWQMP is prepared for essentially all actions associated with increases to impervious surfaces and would be required for the project.

Impact Determination

With adherence to the County's JRMP, *BMP Design Manual*, *LID Handbook*, and WPO, the project would not violate any water quality standards or waste discharge requirements, and, as such, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Open Space~~/Preserve~~

Impact Discussion

The proposed open space~~/preserve~~ component of the project would not include activities that would disturb surface soils, which would have the potential to temporarily increase the amount of sediment in runoff from the project site during a storm event. Operational activities associated with the open space~~/preserve~~ component of the project would remain similar to existing use of the area, which includes existing trails for activities such as hiking, biking, and horseback riding.

Impact Determination

The proposed open space~~/preserve~~ area would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality during construction or operation. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 2: Implementation of the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

The project would obtain its water supply from the Padre Dam Municipal Water District, which purchases water from the ~~San Diego~~ County Water Authority. ~~San Diego~~ County Water Authority supplies include water purchased from the Metropolitan Water Authority, Colorado River water, and desalinated water. The project would not use any groundwater for irrigation or domestic or commercial use demands. However, in certain cases, groundwater may be used in the event of a wildland fire on the project site. Discrete use of groundwater for emergency situations would not result in a substantial decrease in groundwater supplies or interfere substantially with groundwater recharge. In addition, the project does not involve operations that would interfere substantially with groundwater recharge such as regional diversion of water to another groundwater basin or diversion or channelization of a stream course or waterway with impervious layers, such as concrete lining or culverts, for substantial distances (e.g., 0.25 mile). These activities and operations can substantially affect rates of groundwater recharge.

While the project would result in an increase in the amount of impervious surface that would potentially affect groundwater recharge, it would not 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. In addition, the project would include implementation of a bio-retention basin that would allow ground recharge during operations. Further, project BMPs such as landscaped areas, berms, and stormwater retention basins would infiltrate and capture runoff such that an increase in impervious surfaces would not substantially change existing conditions. Similar to existing conditions, stormwater runoff would continue to infiltrate, allowing for groundwater recharge. As such, groundwater recharge would not be reduced by the project. The project does not include any wells to pump groundwater.

Impact Determination

Impacts related to substantial decreases of groundwater supplies and recharge would be less than significant. Therefore, the project would not interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 3: Implementation of the project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:

(i) result in substantial erosion or siltation on- or off-site;

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or ~~offsite~~off-site;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) impede or redirect flood flows.

County Park and Trails

Impact Discussion

i. Result in substantial erosion or siltation on-or off-site

The project would develop an active park in an area that is currently undeveloped. During construction, stormwater drainage patterns could be temporarily altered due to site grading, preparation, and excavation activity, resulting in temporary erosion impacts. Based on the FEMA Flood Map for the project area, the project site is not located within a floodway; it is located within Zone X, which is defined as an area of minimal flood hazard (FEMA 2012). Although flooding that could result in substantial erosion or siltation is not anticipated, the project would result in an increase of 7.8 acres of impervious surface, which would increase the potential for erosion or siltation. New impervious surfaces would include parking areas, restroom facilities, an administrative facility/ranger station, basketball courts, pickleball courts, and ~~a skate~~an all-wheel park and a bike skills area. All other project components would be constructed with pervious materials. As previously discussed, a SWQMP would be prepared for the project site, which would contain site-specific design measures, source control, and/or treatment control BMPs such as landscaped areas, berms, and stormwater retention basins to reduce potential pollutants, including sediment from erosion or siltation, to the maximum extent practicable from entering stormwater runoff. Measures required by the Construction General Permit would also limit site runoff during construction, would not alter stormwater drainage patterns, and would help manage erosion and sedimentation. These measures would control erosion and sedimentation and satisfy waste discharge requirements as required by the Land-Use Planning for New Development and Redevelopment Component of the ~~San Diego Municipal Permit~~MS4 (San Diego RWQCB Order No. R9-2013-0001), as implemented by the County's JRMP and *BMP Design Manual*. The SWQMP would specify and describe the implementation process of all BMPs that would address equipment operation and materials management, prevent the erosion process from occurring, and prevent sedimentation in any on site and downstream drainage swales. The DPW would ensure that the project is implemented as proposed (in compliance with the County of San Diego Watershed Protection Ordinance and regional MS4 Permit), which would ensure the project would not result in

significantly increased erosion or sedimentation potential and would not alter any drainage patterns of the site or area on- or off-~~-~~site.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or ~~offsite~~off-site

Construction of the project would involve activities that may temporarily alter drainage patterns, such as grading and trenching. However, these would be temporary, and construction BMPs would be implemented as part of the SWPPP required for the project in order to reduce potential impacts on drainage patterns and flooding on- or off-~~-~~site. BMPs would be implemented to control construction site runoff and ensure proper stormwater control.

Impervious surfaces associated with the project during operation would include the parking areas, restroom facilities, administrative facility/ranger station, equestrian staging area, volunteer pad, basketball courts, pickleball courts, and ~~skate~~an all-wheel park and bike skills area. All other project components, including the corrals, community garden, natural turf areas, dog park, and nature play area would remain pervious. Operation of the project would include design features for drainage, including a bio-retention basin where necessary. Onsite storm runoff would be captured and treated on site using LID methods such as bio-retention, vegetated berms, and landscape and vegetated areas.

In the southern portion of the project site a vegetated berm would be elevated approximately 2 feet above the proposed parking area. Drainage patterns would be influenced by natural topography in the area. While there could be local changes in drainage patterns, overall, they would be similar to existing conditions. Therefore, the project would not substantially increase impervious surfaces at the project site in such a way that would substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-~~-~~site.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

There are no existing or planned stormwater drainage systems proposed by the project, nor does the project require such systems. The project would involve approximately 341,570 square feet of new impervious surface areas. This amount would not contribute runoff water that would exceed the capacity of existing stormwater drainage systems. Due to the large amounts of natural and pervious surfaces on the project site, stormwater would generally percolate and recharge the groundwater table, similar to existing conditions.

The project would include ~~soccer and~~open fields, baseball fields, an all-wheel area, a bike skills area, recreational courts (i.e., basketball and pickleball), restroom facilities, an administrative facility/ranger station~~/community room~~, an equestrian staging area and corral, a nature play area, a volunteer pad, a picnic area with a shade pavilion, picnic tables, and trails. The staging areas and parking areas could represent an additional source of polluted runoff from leaking oil or gasoline from vehicles; however, the project would include design features including bio-retention basins, for the control of drainage on the site, which allow for infiltration and reduce polluted stormwater runoff from being conveyed directly into receiving waters. The project would not include other sources of polluted runoff. Therefore, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

iv. Impede or redirect flood flows

As noted above, the project site is not located within a floodway; it is located within Zone X, defined as an area of minimal flood hazard (FEMA 2012). The project would not include grading or earthmoving that would impede or redirect water flow on site in the case of a flood. The project would involve an increase in impervious surfaces of approximately 341,570 square feet. However, the project would not place structures (i.e. restroom facilities, administrative facility/ranger station), trails, or other park components in areas that would impede or redirect flood flows. In addition, the project would be in compliance with the County's Flood Damage Prevention Ordinance and WPO. Therefore, the project would not impede or redirect flood flows.

Impact Determination

Implementation of the project would not 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: (1) substantial erosion or siltation on- or off-site; (2) flooding on- or off-site; (3) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (4) impede or redirect flood flows. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Open Space~~/Preserve~~

Impact Discussion

The proposed open space component of the project would occur in an existing undeveloped portion of the property. No new impervious surfaces would be created. Therefore, the project would not result in significantly increased erosion or sedimentation. As discussed above, the project site is not located within a floodway; it is located within Zone X. Construction activities within the open space~~/preserve~~ area would be limited to signage installation, restoration activities, and revegetation, which would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.

Operational activities associated with the open space~~/preserve~~ component of the project would remain similar to existing uses in the area, which includes use of exiting trails for activities such as hiking, biking, and horseback riding. Operation of the open space~~/preserve~~ component would not substantially alter the existing drainage pattern of the site or area.

Impact Determination

Construction and operation of the open space~~/preserve~~ component of the project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on-or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or ~~offsite~~off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 4: Implementation of the project would not, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

Construction and Operation

As discussed above, the project site is not located within a floodway or floodplain. The project site is located within Zone X (unshaded) an area of minimal flood hazard (FEMA 2012). The project site is not located within a designated tsunami hazard zone, and, therefore, visitors would not be subject to the risk of this hazard. Seiches are oscillations in an enclosed body of water caused by seismic shaking. The project is not located near a confined body of water on which a seiche could be expected to occur; therefore, visitors would not be subject to the risk of this hazard and would not risk release of pollutants due to project inundation.

Impact Determination

The project would not be located in flood hazard, tsunami, or seiche zones and risk release of pollutants due to project inundation. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 5: Implementation of the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

The County's JRMP and WPO are the countywide water quality management plans that would apply to the project. As discussed above, the project would be covered under the County's existing regional Waste Discharge Requirement Permit, which would require the project to implement site design measures and BMPs to reduce or prevent runoff pollution, that would be consistent with the County's JRMP and *BMP Design Manual.* BMPs would be implemented to control construction site runoff and to reduce the discharge of pollutants to receiving waters from stormwater and other nonpoint-source runoff. As part of compliance with permit requirements during ground-disturbing or construction activities, implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Basin Plan. Construction runoff would also have to comply with the appropriate water quality objectives for the region. The NPDES Construction General Permit also requires stormwater discharges not to contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses. Incorporation of sustainable site design features such as surface landscaping design, vegetated buffers, and bioretention areas would also reduce stormwater runoff flows and associated pollutants.

The project site is not within a recognized DWR groundwater basin; therefore, there is no applicable sustainable groundwater management plan. However, the vegetated berm and bioretention areas throughout the project site would treat runoff and allow for groundwater infiltration and groundwater recharge. Further, the project would be in compliance with the County's groundwater ordinances.

Impact Determination

Implementation of the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.10.5 Summary of Significant Impacts

There would be no impacts on hydrology and water quality.