5.9 HYDROLOGY AND WATER QUALITY

This section provides a description of the existing water resources in the region and at the project site, then provides an evaluation of the potential for the project to result in impacts related to hydrology, water quality, drainage, groundwater resources, and flooding. The analysis is based on information provided in the Los Angeles Regional Water Quality Control Board's (LARWQCB's) 2014 *Water Quality Control Plan for the Los Angeles Region* (Basin Plan) and the Enhanced Watershed Management Program for the Ballona Creek Watershed (EWMP). In addition, project-specific reports used in this analysis include the *Preliminary Civil Engineering Narrative* prepared by KPFF Consulting Engineers (KPFF), dated March 2021, *Low Impact Development (LID) and Hydrology Report* prepared by KPFF, dated June 2023 (Appendix H), and the *Geology and Soil Discipline Report* prepared by Shannon and Wilson, dated January 27, 2023 (Appendix E).

5.9.1 Existing Conditions

5.9.1.1 Surface Water

REGIONAL SURFACE WATER

The project site is located within the Santa Monica Bay Watershed Management Area (WMA) in the Los Angeles Basin (Figure 5.9-1). The Santa Monica Bay WMA encompasses an area of 414 square miles, with the northern boundary extending from the crest of the Santa Monica Mountains and the Ventura–Los Angeles County line through downtown Los Angeles to the Pacific Ocean. The boundary then extends south and west across the Los Angeles plain to include the area east of Ballona Creek and north of the Baldwin Hills. Within the Santa Monica Bay WMA, surface water flows into the Santa Monica Bay through 28 catchment basins that are further grouped into nine subwatershed areas. These nine watershed areas include the North Coast, Malibu Creek, Topanga Creek, Santa Monica Canyon, Pico-Kenter, Ballona Creek, El Segundo-LAX, South Bay, and Palos Verdes (LARWQCB 2014).
The seasonal normal rainfall in the Santa Monica Bay WMA ranges from 26.72 inches in the San Gabriel Mountains to 7.27 inches in the desert. The average annual rainfall for the county is 15.17 inches (Los Angeles County Department of Public Works [County Public Works] 2021).

LOCAL SURFACE WATER

The project site is within the Ballona Creek Watershed (Figure 5.9-2). The Ballona Creek Watershed totals about 130 square miles and includes all or parts of the cities of Beverly Hills, Culver City, Inglewood, Los Angeles, Santa Monica, and West Hollywood, as well as unincorporated areas of Los Angeles County. The watershed is highly developed, with its land use consisting of 64% residential, 8% commercial, 4% industrial, and 17% open space (County Public Works 2022).

Ballona Creek flows as an open channel for approximately 9.5 miles from mid-Los Angeles (approximately 2 miles south of the project site), flowing generally southwest through Culver City, reaching the Pacific Ocean at Playa del Rey (Marina del Rey Harbor), where it discharges into Santa Monica Bay (see Figure 5.9-2). Most of the creek is concrete-lined, with only the estuary portion of the creek, from Centinela Avenue to the outlet, being soft bottomed. Ballona Creek is fed by a network of underground storm drains, which reaches north into Beverly Hills and West Hollywood. The major tributaries to the Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous storm drains (County Public Works 2021).

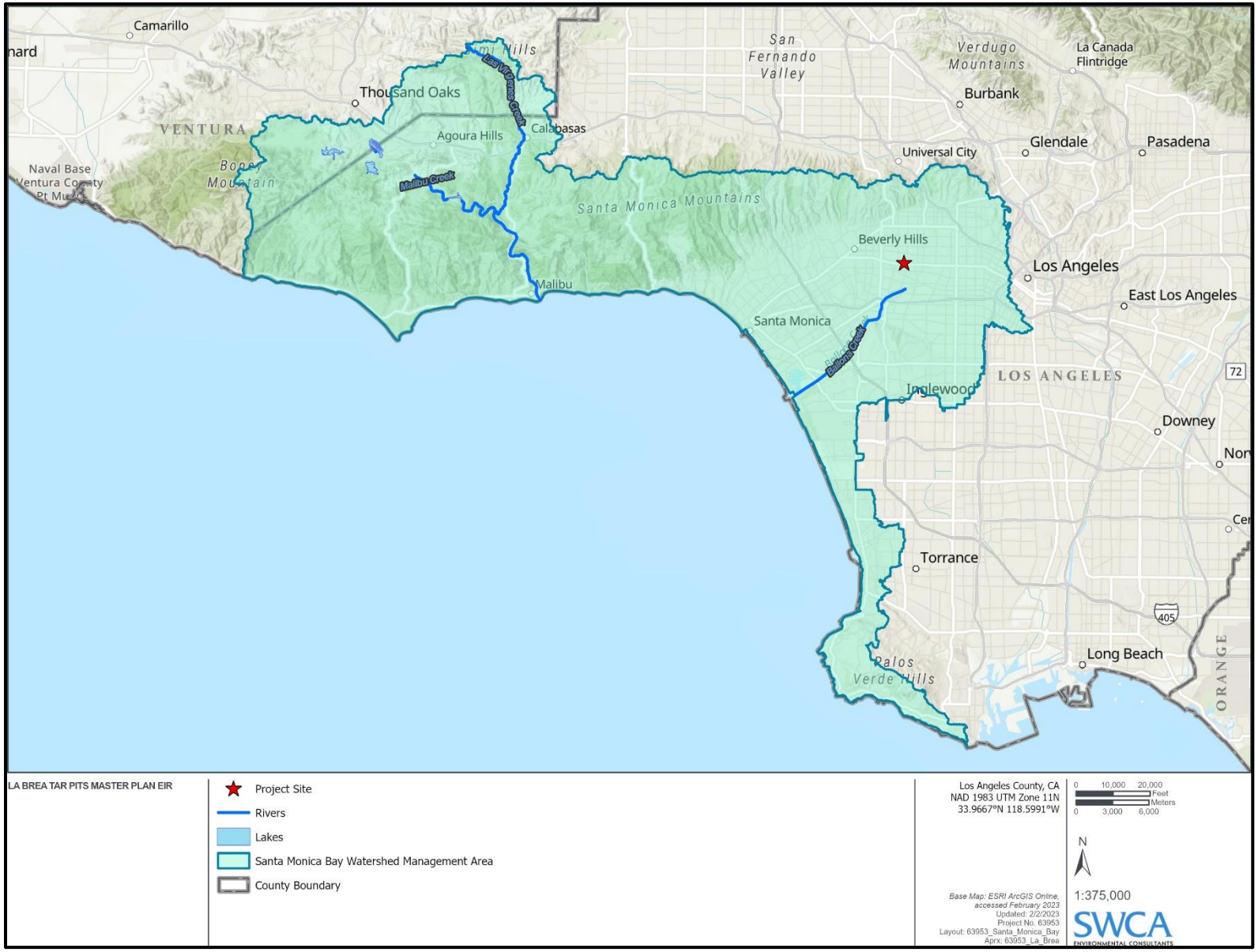

Figure 5.9-1. Santa Monica Bay Watershed Management Area.

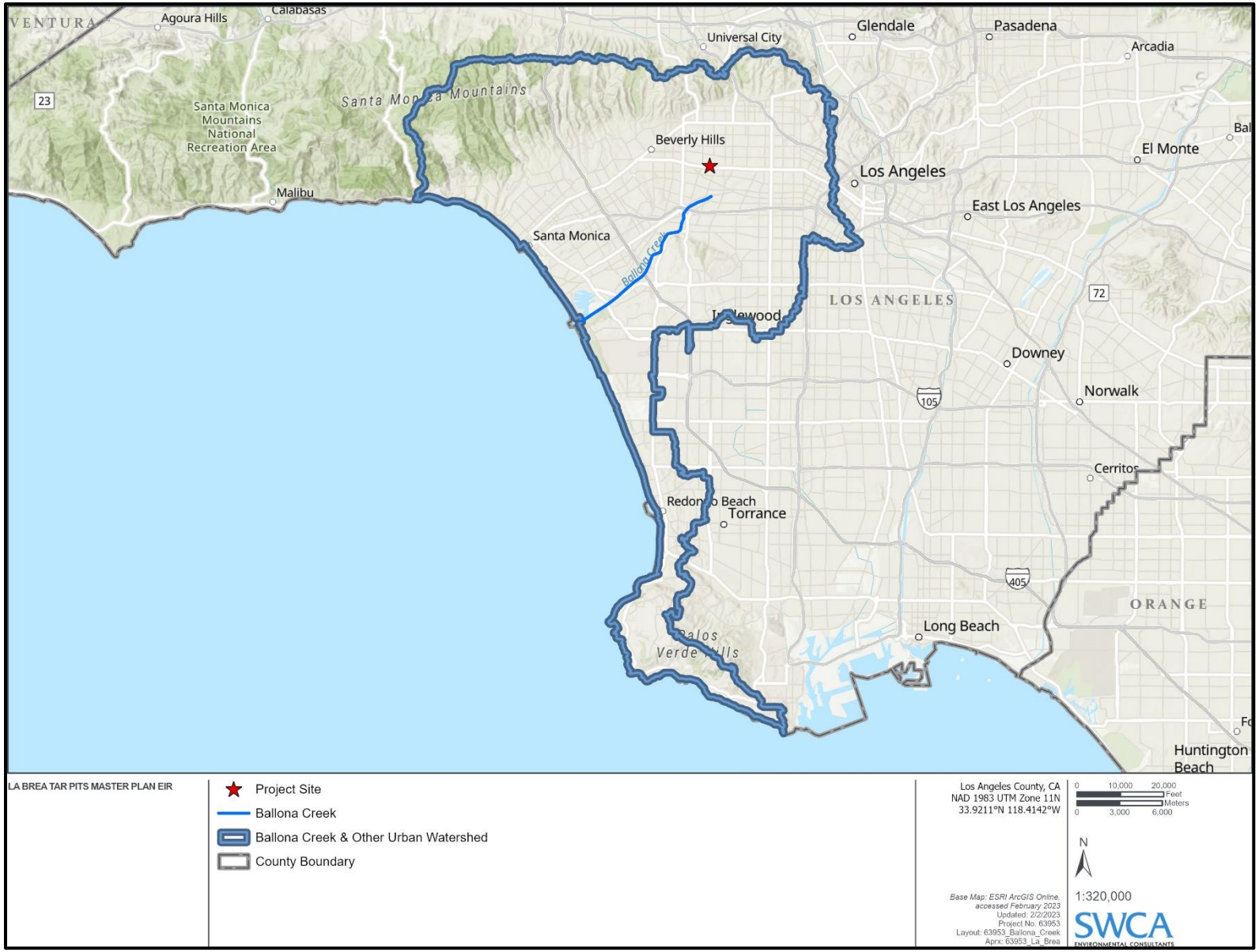

Figure 5.9-2. Ballona Creek watershed area.

In the vicinity of the project site, stormwater runoff enters off-site catch basins and underground storm drainage pipes which convey stormwater through underground pipe networks into Ballona Creek. Underground stormwater drainage facilities located off-site along Wilshire Boulevard (a 30-inch-diameter main line) are owned and maintained by the City of Los Angeles (City). Underground stormwater drainage facilities located off-site along Ogden Drive are owned and maintained by Los Angeles County Flood Control District (LACFCD). The existing catch basin and stormwater infrastructure located in Wilshire Boulevard have been designed to carry the 50-year storm event per the Los Angeles County Hydrology Manual and currently have sufficient capacity to accept the stormwater runoff from the surrounding existing developed areas (County Public Works 2006).

SURFACE WATER AT THE PROJECT SITE

Surface water of note on the project site includes that from Oil Creek. Oil Creek is a historic feature which, as early as 1941 (based on historical aerial imagery), conveyed flow from approximately the intersection of 6th Street and South Curson Avenue southwest to the intersection of Wilshire Boulevard and South Ogden Drive. As discussed in Section 5.3, Biological Resources, Oil Creek appears to receive its primary hydrologic input source from groundwater. Oil Creek also receives hydrologic inputs from precipitation and irrigation system runoff. Stormwater runoff around Lake Pit and Oil Creek drains into the Lake Pit. There is a system at the west end of Lake Pit to manage the water level in the Lake Pit. Low-flow storm water runoff from Oil Creek also is pumped to Lake Pit. However, large-flow rain events draining to Oil Creek bypass the low-flow pump. This occurs via a weir wall within the downstream inlet structure at the terminus of Oil Creek and connects to the LACMA storm drain.

Existing Drainage

The project site is nearly level with a gentle slope downward from northeast to southwest. In the northeast corner of the site, the existing asphalt surface parking lot slopes from east to west. There are existing catch basins in both the northwest and southwest corners of the parking lot. These catch basins connect to underground storm drainage piping which joins a 12-inch-diameter stormwater collection pipeline that collects stormwater flows from the George C. Page Museum (Page Museum), as well as landscape drainage around the multi-purpose lawn.

Currently, the existing project site is 68.1% pervious.[1] For the purposes of analyzing hydrology and drainage patterns for the project, the streets adjacent to the project site have been included in the studied area analyzed in the Low Impact Development (LID) and Hydrology Report prepared by KPFF, dated June 2023 (see Appendix H). With the addition of the adjacent streets, the overall permeability of the existing hydrology study area is 59.3% (Appendix H). The existing drainage patterns on-site include four drainage management areas as described in Table 5.9-1 and shown in Figure 5.9-3. Table 5.9-1 also provides the existing percent permeability, peak discharge flow rates, and runoff volume by drainage area.

[1] A pervious surface allows water to percolate through to the area underneath rather than becoming runoff. Impervious surfaces are solid surfaces that prevent infiltration and water penetration.

Table 5.9-1. Existing Drainage Area Descriptions

Drainage Area (DA)	Description	Percent (%) Permeability	Peak Flow (cfs)	Runoff Volume (cu-ft)
DA-1	Drainage Area 1 is within the central core of the project site. Area drains and catch basins collect surface runoff and discharge to an existing natural channel, Oil Creek. Oil Creek ultimately drains to an existing 30-inch storm drain that connects south into a City of Los Angeles mainline located in Wilshire Boulevard.	58.56%	21.19	73,086.58
DA-2	Drainage Area 2 is highest on the southeast corner at the intersection of Wilshire Boulevard and South Curson Avenue and slopes to the northwest of the project site toward West 6th Street and Ogden Drive. The north edge of the project site slopes toward West 6th Street where runoff flows to the street gutter and ultimately to existing curb inlets located in the street. Similarly, east of the Page Museum, the landscaping slopes east towards South Curson Avenue where the runoff drains north to West 6th Street. A portion of the roof runoff generated by the Page Museum also discharges directly to South Curson Avenue.	49.00%	5.39	43,826.33
DA-3	Drainage Area 3 includes runoff from the southern portion of the project site which drains into the Lake Pit. A small portion of the southeast corner of the site drains directly to Wilshire Boulevard where it is collected by existing curb inlets.	85.79%	9.65	17,673.44
DA-4	Drainage Area 4 includes runoff that drains to Wilshire Boulevard and consists entirely of public right-of-way.	0%	0.59	11,350.44

Note: cfs = cubic feet per second; cu-ft = cubic feet

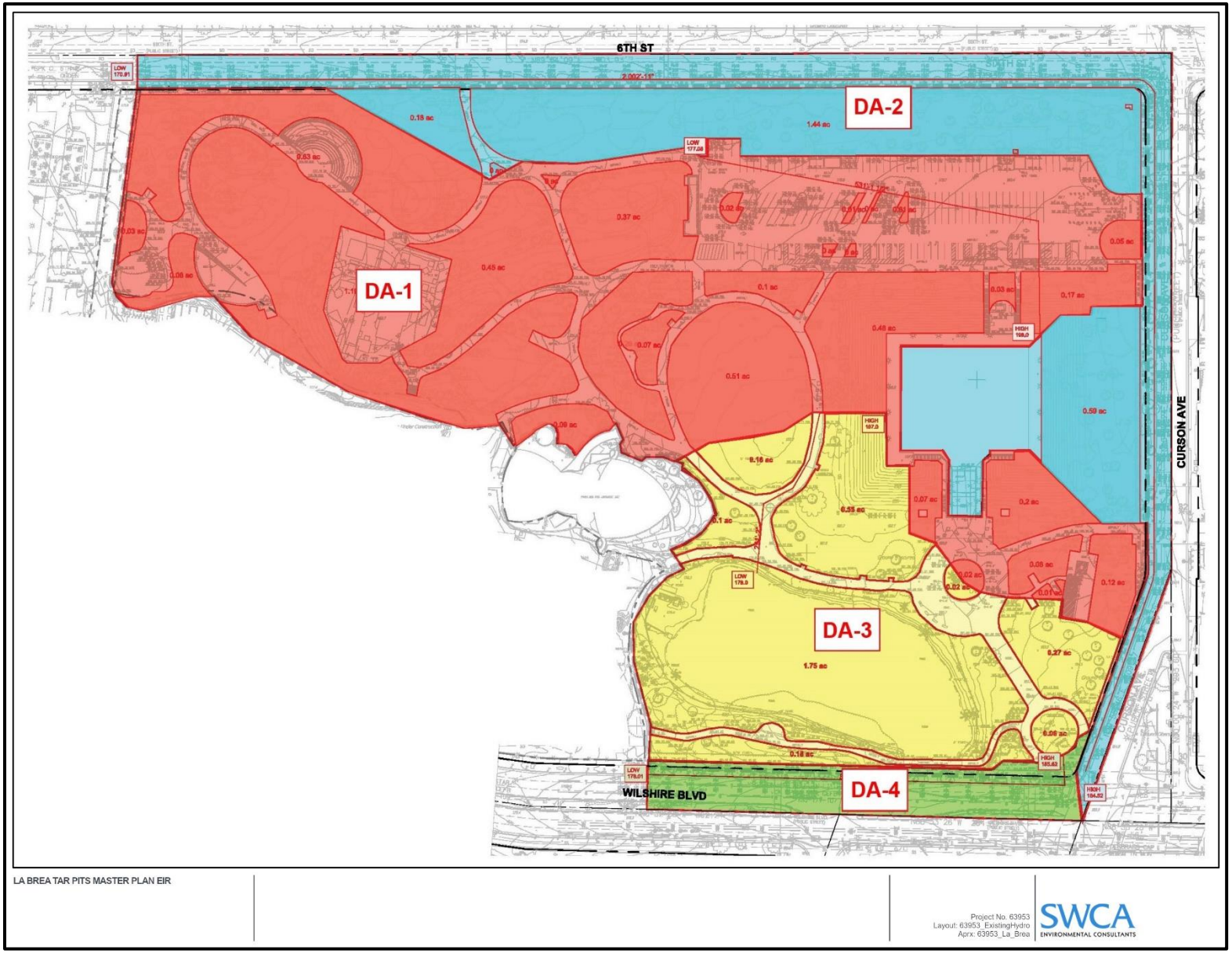

Figure 5.9-3. Existing hydrology and drainage area map.

SURFACE WATER QUALITY

Water quality in the majority of Ballona Creek (including the Ballona Estuary and Wetlands, terminating in the Pacific Ocean) has been impaired by pollutants from dense clusters of residential, industrial, and other urban activities. Constituents of concern listed for Ballona Creek under the federal Clean Water Act Section 303(d) List include cadmium (sediment), chlordane (tissue and sediment), coliform bacteria, copper (Dissolved), cyanide Silver (sediment), Dichlorodiphenyltrichloroethane (DDT), lead, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), sediment toxicity, Shellfish Harvesting Advisory, silver, selenium toxicity, trash, viruses (enteric), and zinc (LARWQCB 2022).

Pursuant to Section 303(d) of the federal Clean Water Act, the State Water Resources Control Board (SWRCB) and the LARWQCB identify impaired bodies of water that do not meet water quality standards and prioritize them for development of Total Maximum Daily Loads (TMDLs). TMDLs are action plans with the purpose of restoring clean water. TMDLs identify the sources of pollution in a given waterbody and specify the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. Those facilities and activities that are discharging into the waterbody, collectively, must not exceed the TMDL. The Ballona Creek Watershed has TMDLs for PCBs, DDT, cadmium, zinc, chlordane, indicator bacteria, PAHs, copper, toxicity, lead, silver, trash, and viruses (enteric) (LARWQCB 2022).

Besides the Lake Pit system discussed previously, the project site does not implement any structural stormwater best management practices (BMPs). However, there are a range of non-structural BMPs that are currently used throughout the project site to minimize the impact of pollutant sources, including general housekeeping practices such as regular trash collection and street sweeping, and proper storage of hazardous materials and waste. Based on the existing operations within the project site, the on-site runoff likely contains the following pollutants of concern: sediment, nutrients, pesticides, metals, pathogens, and oil and grease.

5.9.1.2 Groundwater

REGIONAL AND LOCAL GROUNDWATER

The project site is located within the city of Los Angeles, which is underlain by the Los Angeles Coastal Plain Groundwater Basin. The Los Angeles Coastal Plain Groundwater Basin totals approximately 580 square miles and is divided into the following subbasins: Hollywood, Santa Monica, Orange County Coastal Plain, Central, and West Coast Basins (Figure 5.9-4). Groundwater flow in the Los Angeles Coastal Plain Groundwater Basin is generally south-southwesterly and may be restricted by natural geological features. Replenishment of groundwater basins occurs mainly by percolation of precipitation throughout the region via permeable surfaces, spreading grounds, and groundwater migration from adjacent basins, as well as injection wells designed to pump freshwater along specific seawater barriers to prevent the intrusion of salt water (California Department of Water Resources [DWR] 2004).

Within the Los Angeles Coastal Plain Groundwater Basin, the project site is underlain by the Central Subbasin, commonly referred to as the “Central Basin”, totaling approximately 280 square miles and is bounded on the north by a surface divide called the La Brea high, and on the northeast and east by emergent less-permeable Tertiary rocks of the Elysian, Repetto, Merced, and Puente Hills. The southeast boundary between Central Basin and Orange County Coastal Plain roughly follows Coyote Creek, which is a regional drainage province boundary. The southwest boundary is formed by the Newport Inglewood fault system and the associated folded rocks of the Newport Inglewood uplift. The Los Angeles and San Gabriel Rivers drain inland basins and pass across the surface of the Central Basin on their way to the Pacific Ocean (DWR 2004).

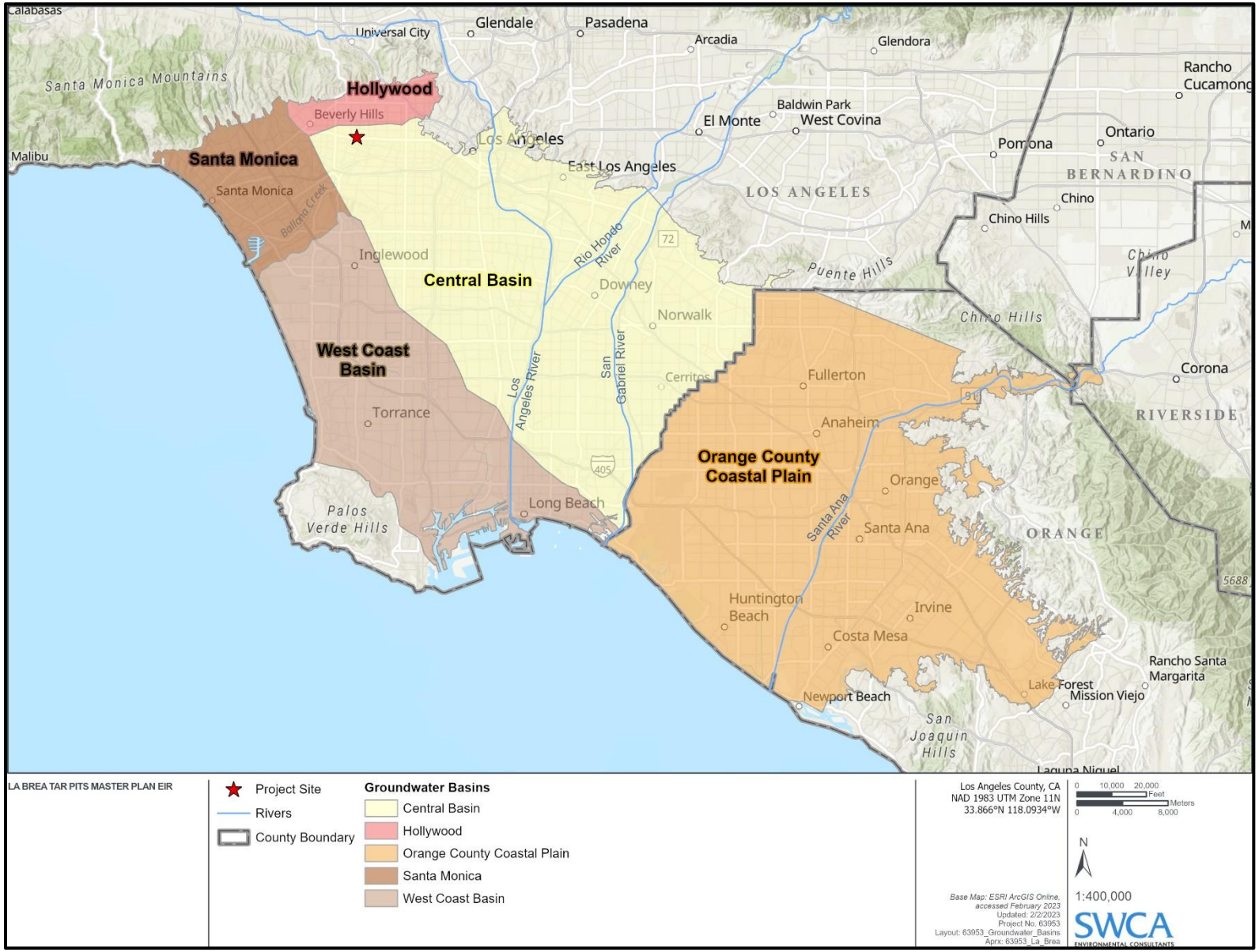

Figure 5.9-4. Los Angeles Coastal Plain Groundwater Basin.

The Central Basin is further divided hydrogeologically into four subareas: the Los Angeles Forebay, Montebello Forebay, Whittier Area, and Pressure Area. The forebays are areas where confining layers are thin or absent and infiltration of precipitation and surface water can recharge deeper potable water supply aquifers. The project site is located in the northwestern portion of the Central Subbasin.

GROUNDWATER CONDITIONS AT THE PROJECT SITE

Groundwater depth at the project site fluctuates in response to rainfall, seasonal variations, and other factors, and varies throughout the site. According to the *Geology and Soil Discipline Report, La Brea Tar Pits Museum Master Plan Project* (Geology and Soil Discipline Report) prepared for the project by Shannon and Wilson dated January 27, 2023 (Appendix E), the project site lies within the 10-foot water level contour of the historically high groundwater levels, indicating that the historical high groundwater depth is at or shallower than 10 feet below ground surface (bgs) (Shannon and Wilson 2023). Previous subsurface boring explorations conducted at the project site encountered groundwater levels at depths less than 10 feet bgs. Two of previous boring sites adjacent to the project site have been converted to groundwater monitoring wells, with groundwater data being collected over 1.5 to 2 years. Over that time, the shallowest groundwater depth encountered was approximately 1 foot bgs, corresponding to an elevation of approximately 167.5 feet above mean sea level, and approximately 5.7 feet bgs, corresponding to an elevation of 164 feet above mean sea level (Shannon and Wilson 2023).

Groundwater levels at the east side of the project site are typically found at very shallow depths at or near the water surface elevation of Lake Pit, as the Lake Pit is a naturally occurring open waterbody. According to the *Preliminary Civil Engineering Narrative* prepared by KPFF in March 2021, substantial groundwater intrusion has occurred, and continues to occur, in the lowest level of the Page Museum (KPFF 2021). Groundwater intrusion has also been observed within access manholes, vaults, and pits throughout the project site. Groundwater depths increase and fall off from the northeast corner of the project site, where it is found to be very shallow, to the southwest corner of the project site, where it is found to be deeper. This pattern appears to mimic the historical evidence of a natural spring known as Oil Creek which had headwaters near the intersection of 6th Street and Curson Avenue. Oil Creek has been disturbed and manipulated over time. It is partially paved where the parking lot is located and is channelized with pavers near its terminus. It is dominated by non-native grasses in parts and planted with native riparian vegetation in other parts. Oil Creek historically flowed in a southwesterly course lending credence to the theory that the natural flow of water may still exist, only below the ground surface. If natural groundwater flow does exist on the project site, it is assumed to be relatively slow due to site soil being rendered viscous by the prevalence of tar. Tar occurs within the groundwater as observed at Lake Pit, and tar seeps occur randomly throughout the site. Both of these indicate the potential for near-surface groundwater and tar to be encountered (KPFF 2021).

WATER QUALITY

As previously mentioned, the city overlies the Los Angeles Coastal Plain Groundwater Basin, which falls under the jurisdiction of the LARWQCB. According to the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, water quality objectives applying to all groundwaters of the region include those concerning bacteria, chemical constituents and radioactivity, mineral quality, nitrogen (nitrate, nitrite), taste, and odor. Within the Central Basin, the following constituents of concern include: boron, chloride, sulfate, total dissolved solids, and nitrate (DWR 2004).

5.9.1.3 Flooding and Hydrological Hazards

Flood hazard areas identified on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area

that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. The 1% annual chance flood is also referred to as the base flood or 100-year flood. According to the FEMA FIRM No. 06037C1605F, dated September 26, 2008, the project site is within FEMA Flood Zone X, which is defined as "areas determined to be outside the 0.2 percent annual chance floodplain" or not within a 100-year flood zone (FEMA 2008).

The project site is located approximately 10 miles east of the coastline along the Pacific Ocean. Based on the California Department of Conservation Map of Los Angeles County Tsunami Hazard Areas, the project site is not located within a tsunami zone (California Department of Conservation 2019).

There are two bodies of standing water present in the immediate vicinity of the project site. The larger of the two is the Lake Pit, located in the southern portion of the site. The second body of water is a small pond within a topographic low area that includes Pit 91. Both surface bodies of water within the project site would have low potential to cause a seiche as they are considered too small or shallow. Further, the water surface level at the Lake Pit is several feet below the edge of the surrounding bank. As such, neither are expected to generate a seiche large enough to overflow their banks. Additionally, the Safety Element of the City's General Plan maps the project site within the potential inundation area for the Hollywood Reservoir, which is held by the Mulholland Dam. The Mulholland Dam is a Los Angeles Department of Water and Power (LADWP) dam located in the Hollywood Hills, approximately 6 miles northeast of the project site.

5.9.2 Regulatory Setting

5.9.2.1 Federal

FEDERAL CLEAN WATER ACT, 33 USC 1251 ET SEQ. (1977)

The federal Clean Water Act (CWA) is the primary federal law regulating discharges of pollutants into waters of the U.S. and regulating water quality standards for surface waters. The CWA prohibits the discharge of any pollutants from a point source into navigable waters unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained. The following CWA sections include relevant policies for regulating water quality:

- **Section 208** requires all states to assess damages to water quality from nonpoint source pollution, including runoff. Section 208 requires states to develop either regulatory or non-regulatory programs to control nonpoint source pollution.
- **Section 303(d)** authorizes the U.S. Environmental Protection Agency (EPA) to assist states, territories, and authorized tribes in listing impaired waters and developing TMDLs for the identified waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a listed waterbody. In addition, a TMDL establishes a starting point for restoring water quality.
- **Section 304(a)(4)** requires the EPA to designate potential water pollutants as either conventional pollutants or toxic pollutants based on the latest scientific knowledge regarding the effects of pollutants on water quality. Conventional pollutants include biochemical oxygen demand total suspended solids, fecal coliform, pH, oil, and grease. The EPA has designated 126 "priority" toxic pollutants.
- **Section 313** requires that each federal agency that has jurisdiction over any facility or is engaged in an activity that may result in discharge or runoff of pollutants must comply with all federal, state, and local water pollution control requirements. This may include adherence to all requirements, including, but not necessarily limited to, reporting, recordkeeping, and/or permitting requirements.

- **Section 401** requires a water quality certification to be issued or waived by states and authorized tribes prior to issuance of a permit or license to conduct activities that may result in discharge to waters of the U.S. In cases where a state or tribe does not have authority, the EPA is responsible for issuing certification. The major federal licenses and permits subject to Section 401 include: 1) CWA Section 402 and 404 permits issued by the EPA or U.S. Army Corps of Engineers (USACE); 2) Federal Energy Regulatory Commission (FERC) licenses for hydropower facilities and natural gas pipelines; and 3) Rivers and Harbors Act Section 9 and 10 permits.
- **Section 402** establishes the NPDES. Discharges of point source pollutants to waters of the U.S. are prohibited unless they are compliant with provisions of the CWA. Typically, compliance is achieved by obtaining authorization to discharge pursuant to an NPDES permit issued by the EPA or a state agency that has an approved NPDES program. NPDES permits generally contain water quality- and/or technology-based standards for effluent discharges, monitoring requirements, analytical testing methods, and reporting requirements.
- **Section 404** requires facilities that discharge dredged or fill materials into waters of the U.S. to apply for a permit issued by the USACE.
- **Section 405** requires that facilities that treated domestic sewage must meet federal requirements for the use and disposal of sewage discharge through land application, surface disposal, or incineration. These requirements are incorporated to permits issued under CWA Section 402.

The project would be subject to CWA Section 208, 303(d), 304(a)(4), 313, 401, 402, 404, and 405 permits.

EXECUTIVE ORDER 11988

FEMA oversees floodplains and manages the National Flood Insurance Program. FEMA also prepares FIRMs for states and other communities participating in the program. FIRMs delineate regulatory floodplains to assist communities with land use and floodplain management decisions. Specifically, Executive Order 11988, Floodplain Management requires federal agencies to avoid long- and short-term impacts associated with the occupancy and modification of floodplains to the extent feasible. Executive Order 11988 also requires agencies to avoid direct and indirect support of floodplain management wherever there is a practicable alternative. According to FEMA FIRM No. 06037C1605F, dated September 26, 2008, the project site is located within "Zone X (unshaded)," which corresponds to areas of minimal flood hazard (FEMA 2008).

FEDERAL ANTIDEGRADATION POLICY

The Federal Antidegradation Policy, adopted in 1972, requires states to develop statewide policies to prevent degradation of surface water and groundwater resources and identify methods for implementing them. Pursuant to the Code of Federal Regulations (CFR), state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: 1) existing in-stream water uses; 2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the State finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and 3) water quality in waters considered an outstanding national resource. While this policy was established after the adoption of the State of California Antidegradation Policy, it laid the groundwork for other states to adopt antidegradation policies to protect surface and groundwater quality.

5.9.2.2 State

CALIFORNIA DEPARTMENT OF WATER RESOURCES

The California Department of Water Resources (DWR) is the state agency that studies, constructs, and operates regional-scale flood protection systems, in partnership with federal and local agencies. DWR also provides technical, financial, and emergency response assistances to local agencies related to flooding.

Several bills were signed by Governor Schwarzenegger in 2007, adding to and amending state flood and land use management laws. The laws contain requirements and considerations that outline a comprehensive approach to improving flood management at state and local levels.

FloodSAFE California is a strategic multifaceted program initiated by DWR in 2006. FloodSAFE is guiding the development of regional flood management plans, which encourage regional cooperation in identifying and addressing flood hazards. Regional flood plans include flood hazard identification, risk analyses, review of existing measures, and identification of potential projects and funding strategies. The plans emphasize multiple objectives, system resiliency, and compatibility with state goals and Integrated Regional Water Management Plans (IRWMPs). DWR has the lead role to implement FloodSAFE, and will work closely with state, federal, tribal, and local partners to help improve integrated flood management systems statewide. DWR's role is to advise and provide assistance as a resource to local jurisdictions as they pursue compliance.

As required by California Water Code section 6161, the DWR's Division of Safety of Dams (DSOD) regulates the siting, design, construction, and periodic review of all dams in the state. DSOD reviews and approves inundation maps prepared by licensed civil engineers and submitted by dam owners for extremely high, high, and significant hazard dams and their critical appurtenant structures. Inundation maps approved by DSOD are a tool used to develop emergency action plans, and the maps are intended to provide general information for emergency planning. The project site is identified in the City's Safety Element as being located within the potential inundation area for the Hollywood Reservoir, which is held by the Mulholland Dam. The Mulholland Dam is a LADWP dam located in the Hollywood Hills, approximately 6 miles northeast of the project site and is ultimately regulated and monitored by DSOD and the USACE to prevent dam failure.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Water Code Section 13000 et seq.) created the SWRCB and the nine Regional Water Quality Control Boards (RWQCBs) within the state. The SWRCB coordinates responsibilities of water quality and water rights within the state. The proposed project is within the jurisdiction of the Los Angeles RWQCB (LARWQCB), further discussed in Section 5.9.2.3, below.

The Porter-Cologne Act requires that waters of the State are protected. The SWRCB is given authority to enforce the Porter-Cologne Act, as well as CWA Section 401. In California, the SWRCB issues a statewide Construction General Permit to regulate runoff from construction sites involving grading and earth moving in areas over 1 acre. The Construction General Permit also applies to projects of less than 1 acre that are part of a larger plan of common development and requires covered construction projects to use the best available technology economically achievable and the best conventional pollution control technology. Each construction project subject to the Construction General Permit is required to have a Stormwater Pollution Prevention Plan (SWPPP) prepared. A SWPPP identifies likely sources of sediment and pollution and incorporates measures to minimize sediment and pollution in runoff water.

The proposed project site is approximately 13 acres in size and is therefore subject to the Construction General Permit.

CALIFORNIA ANTIDEGRADATION POLICY

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB pursuant to State Board Resolution No. 68-16 in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the State (e.g., isolated wetlands and groundwater), not just surface waters. The policy states that whenever the existing quality of a waterbody is better than the quality established in individual Basin Plans such high quality shall be maintained, and discharges to that waterbody shall not unreasonably affect present or anticipated beneficial uses of that water resource.

CALIFORNIA TOXICS RULE

In 2000, the EPA promulgated the California Toxics Rule, which establishes water quality criteria for certain toxic substances to be applied to waters in the State. In 1994, a California state court revoked the State's water quality control plans, which contained numeric criteria for water quality. This was in direct violation of the CWA and required EPA action. The EPA then implemented the California Toxics Rule. The EPA promulgated this rule based on Section 303(c)(2)(B) of the Clean Water Act, which dictates that States must adopt numeric criteria in order to protect human health and the environment. The California Toxics Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water such as inland surface waters and enclosed bays and estuaries that are designated by the LARWQCB as having beneficial uses protective of aquatic life or human health.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM CONSTRUCTION GENERAL PERMIT

Construction associated with the proposed project would disturb more than 1 acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The proposed project would, therefore, be subject to the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb 1 acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving waterbodies and is based on the nature of the construction activities and the location of the site relative to receiving waterbodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge.

The Construction General Permit requires the development and implementation of a SWPPP that includes specific BMPs designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management, and good housekeeping, and are intended to protect surface water quality by

preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Each category contains specific BMPs to achieve the goals of the overarching category. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

The SWPPP must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing, and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the project site, the Construction General Permit is implemented and enforced by the LARWQCB, which administers the stormwater permitting program. Dischargers are required to electronically submit a notice of intent and permit registration documents in order to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the LARWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A Legally Responsible Person, who is legally authorized to sign and certify permit registration documents, is responsible for obtaining coverage under the permit.

CONSTRUCTION GENERAL PERMIT (SWRCB ORDER 2009-0009-DWQ, AS AMENDED)

For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities ("Construction General Permit"; SWRCB Order 2009-0009-DWQ) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit is required for all projects where construction activity would disturb 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a SWPPP, which would include and specify water quality BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by "qualified individuals" as defined by the SWRCB.

NPDES MUNICIPAL STORMWATER PERMIT AND STORMWATER QUALITY MANAGEMENT PROGRAM

In 1987, amendments to the Clean Water Act expanded the NPDES permit program to regulate discharges from storm drains owned and operated by municipalities. In November 1990, EPA published regulations that established application requirements for stormwater permits for municipal stormwater discharges. In California, the NPDES stormwater permit program is administered and enforced by the SWRCB through the nine RWQCBs by issuing Waste Discharge Requirements and NPDES permits. These permits are reissued approximately every 5 years and also include applicable provisions of the state Porter-Cologne Act, which is the principal legislation for controlling stormwater pollutants in California. The permit establishes regulations covering discharge prohibitions, receiving water limitations, municipal operations (such as the proposed project), new development, construction site controls (construction site runoff), and other regulations to regulate surface water quality.

The discharge prohibitions prohibit the discharge of non-stormwater (materials other than stormwater) into, storm drain systems, and watercourses. The municipal operations regulations include a number of requirements to control and reduce non-stormwater discharges and polluted stormwater to storm drains and watercourses during operation, inspection, and routine repair and maintenance activities of municipal facilities and infrastructure, such as the proposed project. The requirements include source control, site design, and stormwater treatment requirements, such as minimizing disturbance of natural infiltration areas and the addition of impervious surfaces, controlling and directing runoff, and the use of infiltration and bioretention measures, among other measures.

The County of Los Angeles and 84 incorporated cities (Co-Permittees, including the City of Downey) implemented a stormwater quality management program (SQMP) to comply with LARWQCB Order No. R4-2012-0175-A01 Amending Order No. Order No. R4-2012-0175 as Amended by State Water Board Order WW 2015-0075, NPDES Permit No. CAS004001, *Waste Discharge Requirements For Municipal Separate Storm Sewer System (MS4), Discharges Within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4*, dated September 8, 2016. The SQMP has the goal of accomplishing the requirements of the MS4 Permit and reducing the amount of pollutants in stormwater runoff. The requirements include source control, site design, and stormwater treatment requirements, such as minimizing disturbance of natural infiltration areas and the addition of impervious surfaces, controlling and directing runoff, and the use of infiltration and bioretention measures, among other measures.

The SWMP requires the Co-Permittees to:

- Implement a public information and participation program to conduct outreach on stormwater pollution;
- Control discharges at commercial/industrial facilities through tracking, inspecting, and ensuring compliance at facilities that are critical sources of pollutants;
- Implement a development planning program for specified development projects;
- Implement a program to control construction runoff from construction activity at all construction sites within the relevant jurisdictions;
- Implement a public agency activities program to minimize stormwater pollution impacts from public agency activities; and
- Implement a program to document, track, and report illicit connections and discharges to the storm drain system.

The MS4 Permit contains the following provisions for implementation of the SQMP by the Co-Permittees:

1. General Requirements:
    a. Each permittee is required to implement the SQMP in order to comply with applicable stormwater program requirements.
    b. The SQMP shall be implemented and east permittee shall implement additional controls so that discharge of pollutants is reduced.
2. Best Management Practice Implementation:
    a. Permittees are required to implement the most effective combination of BMPs for stormwater/urban runoff pollution control. This should result in the reduction of stormwater runoff.
3. Revision of the SQMP:
    a. Permittees are required to revise the SQMP in order to comply with requirements of the RWOCB while complying with regional watershed requirements and/or waste load allocations for implementation of TMDLs for impaired waterbodies.
4. Designation and Responsibilities of the Principal Permittee:
    a. The Los Angeles County Flood Control District is designated as the Principal Permittee who is responsible for:
        i. Coordinating activities that comply with requirements outlined in the NPDES permit;
        ii. Coordinating activities among Permittees;
        iii. Providing personnel and fiscal resources for necessary updates to the SQMP;
        iv. Providing technical support for committees required to implement the SQMP; and
        v. Implementing the Countywide Monitoring Program required under this Order and assessing the results of the monitoring program.
5. Responsibilities of Co-Permittee:
    a. Each co-permittee is required to comply with the requirements of the SQMP as applicable to the discharges within its geographical boundaries. These requirements include:
        i. Coordinating among internal departments to facilitate the implementation of the SQMP requirements in an efficient way;
        ii. Participating in coordination with other internal agencies as necessary to successfully implement the requirements of the SQMP; and
        iii. Preparing an annual Budget Summary of expenditures for the stormwater management program by providing an estimated breakdown of expenditures for different areas of concern, including budget projections for the following year.
6. Watershed Management Committees (WMCs):
    a. Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).
    b. Each WMC is required to facilitate exchange of information between Co-Permittees, establish goals and deadlines for WMAs, prioritize pollution control measures, develop and update adequate information, and recommend appropriate revisions to the SQMP.

7. Legal Authority:
    a. Co-Permittees are granted the legal authority to prohibit non-stormwater discharges to the storm drain system including discharge to the MS4 from various development types.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT

The Sustainable Groundwater Management Act (SGMA) is managed by the DWR and provides a long-term statewide framework to protect groundwater resources. The SGMA comprises a three-bill legislative package, including Assembly Bill 1739, Senate Bill 1168, and Senate Bill 1319. The SGMA requires local agencies to form Groundwater Sustainability Agencies for high- and medium-priority basins. It is the responsibility of the Groundwater Sustainability Agencies to prepare and implement a Groundwater Sustainability Plan to mitigate overdraft.

The SGMA does not apply to the adjudicated portion of the Los Angeles Coastal Plain Groundwater Basin, Central Subbasin. However, the project site is within an area of the Los Angeles Coastal Plain Groundwater Basin, Central Subbasin that is not adjudicated. The Central Subbasin is within a low- and very low-priority basin, which has the option to develop a groundwater sustainability plan.

5.9.2.3 County of Los Angeles

INTEGRATED REGIONAL WATER MANAGEMENT PLANS

Integrated Regional Water Management Plans (IRWMPs) are planning documents that outline strategies for the sustainable management of water resources within a specific region delineated by one or more watersheds. IRWMPs generally contain an assessment of current and future water demand, water supply, water quality, and environmental needs. They address the challenges for delivering a stable and clean supply of water for the public, addressing stormwater and urban runoff water quality, providing flood protection, meeting water infrastructure needs, maximizing the use of reclaimed water, enhancing water conservation, and promoting environmental stewardship. There are four IRWMP regions in Los Angeles County: Antelope Valley IRWMP; Upper Santa Clara River IRWMP; Greater Los Angeles County IRWMP; and Los Angeles Gateway Region. The project site is within the Greater Los Angeles County IRWMP.

BASIN PLAN FOR THE COASTAL WATERSHEDS OF LOS ANGELES AND VENTURA COUNTIES

As required by the California Water Code, the LARWQCB has adopted a plan entitled, "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designated beneficial uses for surface waters and groundwater, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's Antidegradation Policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable state and RWQCB plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan. The Basin Plan is a resource for the RWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. The Basin Plan provides valuable information to the public about local water quality issues.

ENHANCED WATERSHED MANAGEMENT PROGRAM FOR BALLONA CREEK

The EWMP for the Ballona Creek Watershed was developed by the Ballona Creek Watershed Management, which includes the cities of Los Angeles (lead coordinating agency), Beverly Hills, Culver City, Inglewood, Santa Monica, West Hollywood, and the unincorporated County of Los Angeles and the LACFCD. The project site is within the Ballona Creek Watershed boundary and the jurisdictional area of the EWMP.

The EWMP for the Ballona Creek Watershed describes a customized compliance pathway that Los Angeles County MS4 Permittees in the watershed will use to fulfill the Watershed Management Program requirements contained in the 2012 MS4 Permit (Order No. R4-2012-0175; NPDES Permit No. CAS004001). The EWMP for the Ballona Creek Watershed identifies a detailed implementation strategy that provides not only water quality improvement but also environmental, aesthetic, recreational, water supply and/or other community enhancements.

The EWMP provides a multi-pollutant approach that maximizes the retention and use of urban runoff as a resource for water reuse, irrigation, and indoor use, while also creating additional benefits for the communities in the Ballona Creek Watershed. The EWMP also presents watershed control measures to address applicable stormwater quality regulations, including Low Impact Development (LID) control measures, green streets wherein street rights-of-way are landscaped to provide surfaces that retain runoff, and regional projects that are able to capture runoff from large upstream areas.

LOS ANGELES COUNTY LOW IMPACT DEVELOPMENT MANUAL

In 2008, the County adopted a Low Impact Development ordinance to require use of LID principles in all development projects except for road and flood infrastructure projects. The LID ordinance was amended in response to the 2012 MS4 Permit. The County prepared the 2014 LID Standards Manual to comply with the requirements of the NPDES MS4 Permit. The County LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the county, with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. Chapter 12.84 of the Los Angeles County Code outlines LID Standards and their applicability to projects in the county. The LID Standards Manual addresses the following objectives and goals (County Public Works 2014):

- Lessen the adverse impacts of stormwater runoff from development and urban runoff on natural drainage systems, receiving waters, and other waterbodies;
- Minimize pollutant loadings from impervious surfaces by requiring development projects to incorporate properly designed, technically appropriate BMPs and other LID strategies; and
- Minimize erosion and other hydrologic impacts on natural drainage systems by requiring development projects to incorporate properly designed, technically appropriate hydromodification control development and technologies.

The provisions in Chapter 12.84 shall not be construed to augment any county, state, or federal ordinance, status, regulation, or other requirement governing the same or related matter, and where a conflict exists between a provision in Chapter 12.84 and such other ordinance, statute, regulation, or requirement, the stricter provision shall apply to the extent permitted by law.

COUNTY OF LOS ANGELES HYDROLOGY MANUAL

The County of Los Angeles Department of Public Works Hydrology Manual (Hydrology Manual) requires that a storm drain conveyance system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event (County Public Works 2006). Areas with sump conditions are required to have a storm drain conveyance system capable of conveying flow from a 50-year storm event. The County also limits the allowable discharge into existing storm drain facilities based on the municipal separate stormwater sewer systems permit and is enforced on all new developments that discharge directly into the County's storm drain system. Any proposed drainage improvements of County-owned storm drain facilities such as catch basins and storm drain lines requires the approval/review from the County Flood Control District department.

COUNTY OF LOS ANGELES 2035 GENERAL PLAN

The proposed project is subject to relevant goals, policies, and actions listed in the County of Los Angeles 2035 General Plan (County of Los Angeles 2015). Goals, policies, and actions related to the Conservation and Natural Resources Element are included below. The County of Los Angeles Board of Supervisors adopted the Los Angeles County 2035 General Plan on October 6, 2015. The 2035 General Plan is intended to provide policy framework for development within the county through the year 2035.

Conservation and Natural Resources Element

Goal C/NR 5. Protected and useable local surface water resources.

> ***Policy C/NR 5.1.*** Support the LID philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales.
>
> ***Policy C/NR 5.2.*** Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits.
>
> ***Policy C/NR 5.3:*** Actively engage with stakeholders in the formulation and implementation of surface water preservation and restoration plans, including plans to improve impaired surface waterbodies by retrofitting tributary watersheds with LID types of BMPs.
>
> ***Policy C/NR 5.4:*** Actively engage in implementing all approved Enhanced Watershed Management Programs/Watershed Management Programs and Coordinated Integrated Monitoring Programs/Integrated Monitoring Programs or other County-involved TMDL implementation and monitoring plans.
>
> ***Policy C/NR 5.5:*** Manage the placement and use of septic systems in order to protect nearby surface waterbodies.
>
> ***Policy C/NR 5.6***: Minimize point and non-point source water pollution.
>
> ***Policy C/NR 5.7:*** Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals, such as roadway, railway, bridge, and other—particularly—tributary street and greenway interface points with channelized waterways.

Goal C/NR 6. Protected and usable local groundwater resources.

> ***Policy C/NR 6.1.*** Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.
>
> ***Policy C/NR 6.2:*** Protect natural groundwater recharge areas and regional spreading grounds.
>
> ***Policy C/NR 6.4:*** Manage the placement and use of septic systems in order to protect high groundwater.
>
> ***Policy C/NR 6.5:*** Prevent stormwater infiltration where inappropriate and unsafe, such as in areas with high seasonal groundwater, on hazardous slopes, within 100 feet of drinking water wells, and in contaminated soils

Goal C/NR 7. Protected and healthy watersheds.

> ***Policy C/NR 7.1.*** Support the LID philosophy, which mimics the natural hydrologic cycle using undeveloped conditions as a base, in public and private land use planning and development design.
>
> ***Policy C/NR 7.2***: Support the preservation, restoration and strategic acquisition of available land for open space to preserve watershed uplands, natural streams, drainage paths, wetlands, and rivers, which are necessary for the healthy function of watersheds.
>
> ***Policy C/NR 7.4:*** Promote the development of multi-use regional facilities for stormwater quality improvement, groundwater recharge, detention/attenuation, flood management, retaining non-stormwater runoff, and other compatible uses.

Safety Element

Goal S 2**:** An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to flood and inundation hazards.

> ***Policy S 2.6*****:** Work cooperatively with public agencies with responsibility for flood protection, and with stakeholders in planning for flood and inundation hazards.

Public Services and Facilities Element

Goal PS/F 2: Increased water conservation efforts.

> ***Policy PS/F 2.1:*** Support water conservation measures.

Water and Waste Management Element

Objective: To mitigate hazards and avoid adverse impacts in providing water and waste services and to protect the health and safety of all residents.

Objective: To develop improved systems of resource use, recovery, and reuse.

> ***Policy 25.*** Encourage development and application of water conservation, including recovery and reuse of storm and waste water.

Objective: To provide efficient water and waste management services.

***Objective*:** To maintain the high quality of our coastal, surface, and ground waters.

Policy 17. Protect public health and prevent pollution of ground water through the use of whatever alternative is necessary.

Policy 19. Avoid or mitigate threats to pollution of the ocean, drainage ways, lakes, and groundwater reserves.

5.9.2.4 City of Los Angeles

PLANNING AND LAND DEVELOPMENT HANDBOOK FOR LOW IMPACT DEVELOPMENT

The City of Los Angeles Bureau of Sanitation (referred to as Los Angeles Sanitation and Environment [LASAN]) is responsible for stormwater pollution control throughout the city in compliance with the Los Angeles County Municipal NPDES permit. The LASAN administers the City's stormwater program, which has two major components: pollution abatement and flood control. The Planning and Land Development Handbook for Low Impact Development provides guidance to developers for compliance with the County's Municipal NPDES permit through the incorporation of water quality management into development planning (LASAN 2016). The Planning and Land Development Handbook for Low Impact Development reiterates the policies contained within the Construction General Permit, provides specific minimum BMPs for all construction activities, and requires the preparation of a SWPPP and the filing of a notice of intent to comply with the State NPDES Construction General Permit requirements with the LARWQCB. The Planning and Land Development Handbook for Low Impact Development provides guidance to developers to ensure the post-construction operation of newly developed and redeveloped facilities comply with the developing planning program regulations of the city's stormwater program.

5.9.3 Thresholds of Significance

The following thresholds of significance are based on the Environmental Checklist contained in Appendix G of the State CEQA Guidelines. A project would result in significant adverse impacts related to hydrology and water quality if it would:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or 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 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.

   iv. Impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5.9.4 Impact Assessment Methodology

The hydrology and water quality analysis presented in this chapter is based on literature review of relevant documents including the County of Los Angeles General Plan, the LARWQCB's Basin Plan, and EWMP for the Ballona Creek Watershed, as well as technical reports prepared for the project including the *Preliminary Civil Engineering Narrative* prepared by KPFF dated March 2021, the *Low Impact Development (LID) and Hydrology Report* prepared by KPFF, dated June 2023 (see Appendix H), and the *Geology and Soil Discipline Report* prepared by Shannon and Wilson on January 27, 2023 (see Appendix E).The LID and Hydrology Report outlines the existing and proposed hydrology and drainage management areas for the project site. The LID and Hydrology Report also provides the LID measures required to reduce the project's volume of stormwater runoff and potential pollutants in accordance with the Los Angeles County Department of Public Works' Low Impact Development Standards Manual dated (County Public Works 2014). Hydrology calculations for the project's proposed drainage follow the Los Angeles County Hydrology Manual methodology (County Public Works 2006). Detailed methodologies are provided in Appendix H. The results of the LID analysis are discussed in Section 5.9.5, threshold a. The results of the proposed modifications to the drainage on the project site are discussed below in Section 5.9.5, threshold c.

5.9.5 Environmental Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

CONSTRUCTION IMPACTS

During project construction, particularly during the grading phase, stormwater runoff from precipitation events could cause exposed and stockpiled soils to be subject to erosion and convey sediments into municipal storm drain systems. It is anticipated that project earthwork activities would include an estimated 53,000 cubic yards of cut/export and potentially 37,000 cubic yards of imported fill. In addition, on-site watering activities to reduce airborne dust could contribute to pollutant loading in runoff. Pollutant discharges relating to the storage, handling, use and disposal of chemicals, adhesives, coatings, lubricants, and fuel could also occur. Due to the presence of naturally occurring tar (petroleum) in the subsurface soils, contaminated soils and impacted groundwater may be encountered when performing excavations; therefore, the project may have the potential to require dewatering during construction. Dewatering operations are practices that remove and discharge non-stormwater from an earthwork location into a drainage system in order to proceed with construction. Discharges from dewatering operations can contain high levels of fine sediments, which, if not properly treated, could lead to exceedance of NPDES requirements. During construction, temporary dewatering pumps and filtration would be used in compliance with the NPDES permit. These temporary systems would comply with all applicable NPDES requirements related to construction and discharges from dewatering operations, as well as the LARWQCB's Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties.

As project construction would disturb more than 1 acre of soil, the project would be required to obtain coverage under the NPDES Construction General Permit. In accordance with the requirements of the NPDES Construction General Permit, the project would prepare and implement a site-specific SWPPP that specifies BMPs to be used during construction to manage stormwater and non-stormwater discharges.

BMPs would include, but would not be limited to, erosion control, sediment control, non-stormwater management, and materials management BMPs. The SWPPP would include a description of potential sources of pollutants, including pollutants originating from off-site, which may flow across or through areas of construction. The SWPPP would specify the location, type, and maintenance requirements for BMPs necessary to prevent stormwater runoff from carrying construction-related pollutants into nearby receiving waters (in this case, Ballona Creek). BMPs would be required to be implemented to address the potential release of fuels, oil, and/or lubricants from construction vehicles and equipment (e.g., drip pans, secondary containment, washing stations), release of sediment from material stockpiles and other construction-related excavations (e.g., sediment barriers, soil binders), and other construction-related activities with the potential to adversely affect water quality. The number, type, location, and maintenance requirements of BMPs to be implemented as part of the SWPPP depend on site-specific risk factors, such as soil erosivity factors, construction season/duration, and receiving water sensitivity.

Compliance with the requirements of the LARWQCB (CWA NPDES Program and Porter-Cologne Act waste discharge requirements), Construction General Permit, and County stormwater regulations would be sufficient to address the potential for buildout of the project to violate water quality standards or waste discharge requirements during construction activities. Therefore, impacts related to degradation of surface or groundwater quality from construction activities would be *less than significant*.

OPERATIONAL IMPACTS

The project would decrease the overall permeability of the project site from 59.3% to 51.9%, representing an approximate 7% decrease in pervious surfaces within the project site upon project completion (KPFF 2023b).

Increased impervious surfaces from the expanded parking lot and drop-off area would collect automobile-derived pollutants such as oils, greases, heavy metals, and rubber. During storm events, these pollutants would be transported into the proposed stormwater management system by surface runoff. An increase in point-source and nonpoint-source pollution could result from increases in development intensity that may directly impact water quality specific to site drainage patterns. These increases would have the potential to increase the quantity of pollutants and non-stormwater discharges that could adversely impact water quality.

As provided in the Preliminary Civil Engineering Narrative and Low Impact Development (LID) and Hydrology Report, the project proposes to implement three LID BMPs to manage stormwater runoff, in accordance with the Los Angeles County LID Standards Manual (KPFF 2021, 2023b). The three LID BMPs are biofiltration planters, which are shallow vegetated planters that are designed to receive and detain stormwater runoff from the building and site, filter the runoff, and eventually discharge the filtered runoff to the public storm drain system. Planters are sized to treat 150% of the required 85th percentile storm, mitigated stormwater volume. To protect the amended soil within the planters from tar infiltration as well as prevent high groundwater from flooding the planters, the project is proposing closed-bottom planters with an underdrain (KPFF 2023b). The proposed biofiltration planters have been sized based on tributary area and are as follows:

- In the northwestern portion of the site, Oil Creek is proposed to be refurbished as a bioswale. The existing creek drainage would be cleared, lined with an impermeable liner, and partially filled with gravel subdrainage with a perforated pipe, amended soil, and plants. Runoff would be conveyed to the creek via sheet flow and existing or relocated underground pipes. After being filtered by the biofiltration media, stormwater would be collected at the bottom of the system and connected to the existing downstream stormwater system.

- In the northeastern portion of the site, the large planter within the proposed drop-off area would be constructed as a biofiltration planter. The planter would be excavated down 4 to 5 feet, lined with an impermeable liner, and filled with gravel subdrainage with a perforated pipe, amended soil, and plants. Supporting wall structures would likely be required underground (appearing at the surface as curbs), to separate the compacted soil for traffic loading and the uncompacted biofiltration media. Runoff would be conveyed to the system via sheet flow, filtered by the system, and then collected in the perforated subdrain and piped to the existing site stormwater system.
- In the southeastern portion of the site, east of Lake Pit, an in-ground biofiltration planter would be installed. The construction of this system would be similar to the Oil Creek system as described above. Subdrainage would be connected into public storm drain mains in either Wilshire Boulevard or South Curson Avenue.

Detailed figures and LID calculations are provided in Appendix H. The project would also be subject to LARWQCB post-construction stormwater management requirements.

While incorporation of the LID BMPs (i.e., the three proposed biofiltration areas) and LARWQCB post-construction stormwater management requirements would improve stormwater runoff water quality, which would benefit the water quality of downstream surface waters as well as underlying groundwater resources, additional non-structural BMPs would also need to be implemented to ensure that the increase in impervious surfaces with project implementation would not contribute to the degradation of surface or groundwater quality. Without implementation of non-structural BMPs, operational impacts related to degradation of surface or groundwater quality could be *significant*.

HYD Impact 1	
During project construction, the project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Construction impacts would be less than significant. Implementation of the project would increase impervious surfaces within the project site, and project operation would have the potential to contribute to the degradation of surface or groundwater quality. Operational impacts could be significant. (CEQA Checklist Appendix G Threshold X. a)	
Mitigation Measures	
HYD/mm-1.1	*The Foundation shall implement the following non-structural Best Management Practices (BMPs) for the life of the project:* ***Open Paved Areas and Biofiltration Planter Areas*** • *Regular sweeping of all open and planter areas, at a minimum, on a weekly basis in order to prevent dispersal of pollutants that may collect on those surfaces.* • *Regular pruning of the trees and shrubs in the planter areas to avoid formation of dried leaves and twigs, which are normally blown by the wind during windy days. These dried leaves are likely to clog the surface inlets of the drainage system when rain comes, which would result in flooding of the surrounding area due to reduced flow capacities of the inlets.* • *Trash and recycling containers shall be used such that, if they are to be located outside or apart from the principal structure, are fully enclosed and watertight in order to prevent contact of stormwater with waste matter, which can be a potential source of bacteria and other pollutants in runoff. These containers shall be emptied and the wastes disposed of properly on a regular basis.*

HYD Impact 1	
	Education and Training • *Annual training of employees on property management and proper methods of handling and disposal of waste shall be provided. Employees should understand the on-site BMPs and their maintenance requirements.* ***Landscape Management*** • *Landscaping shall be maintained using minimum or no pesticides.* ***Litter Control*** • *An adequate number of trash receptacles shall be provided and inspected regularly. Leaky receptacles shall be prepared or replaced. Receptacles shall be covered.* • *Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site.* ***Housekeeping of Loading Docks*** • *Loaded and unloaded items shall be moved indoors as soon as possible.* ***Catch Basin Inspection*** • *Stormwater pollution prevention information shall be provided. Owner shall be made aware that the following is to be followed: "Property owner shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create potential discharge to storm drains."* • *Catch basins shall be inspected regularly.* ***Design and Construct Trash and Waste Storage Areas to Reduce Pollutant Introduction*** • *Trash and waste will be handled and stored for pickup adjacent to the loading dock. This limits the potential introduction of pollutants into the site. Trash and waste pickup will occur regularly.* ***Use Efficient Irrigation Systems and Landscaping Design*** • *Landscape shall be generally designed to provide an efficient and continuous irrigation system.* • *Landscape areas shall be designed to include plants that are friendly to the climate of Los Angeles.* ***Storm Drain Stencil Signage*** • *Stencil or label all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language to prevent dumping of improper materials into the urban runoff conveyance system.*
HYD/mm-1.2	*The Foundation shall ensure all structural and non-structural Best Management Practices (BMPs) are operated, monitored, and maintained for the life of the project pursuant to the following:* • *All structural BMPs shall be inspected, cleaned-out, and where necessary, repaired, at the following minimum frequencies: 1) prior to October 15th each year; 2) during each month between October 15th and April 15th of each year and, 3) at least twice during the dry season (between April 16th and October 14th of each year).* • *Debris and other water pollutants removed from structural BMPs during cleanout shall be contained and disposed of in a proper manner.* • *The drainage system, the associated structures, and BMPs shall be maintained according to manufacturer's specification to ensure maximum pollutant removal efficiencies.*

HYD Impact 1
Impacts Following Mitigation
Based on required compliance with state and local water quality protection requirements, construction impacts related to water quality standards or waste discharge requirements would be less than significant. *Implementation of HYD/mm-1.1 and 1.2 would reduce operational impacts related to water quality standards or waste discharge requirements to less than significant.*

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

CONSTRUCTION

As discussed in HYD Impact 1, dewatering operations are expected during construction only and appropriate compliance and contaminant measures would be implemented to avoid impacts associated with potential groundwater discharges. Due to the operation of temporary dewatering systems, local groundwater hydrology in the immediate vicinity of the project site would be minimally affected. As the groundwater pumping is localized and limited in duration during construction, regional impacts to groundwater flow and level are not considered to be significant. Additionally, no water supply wells are located at the project site or within 1 mile of the project site that could be impacted by construction, nor would the project include the construction of water supply wells. Therefore, the project would not substantially deplete groundwater supplies or affect groundwater recharge in a manner that would result in a net deficit in aquifer volume or permanent lowering of the local groundwater table during construction. Construction impacts would be *less than significant*.

OPERATION

Upon project implementation, the project would increase impervious surface area on the project site, which could reduce the amount of water percolating down into the underground aquifer that underlies the project site. However, the project includes design features that would maximize the percolation of rainfall into the groundwater basin, such as the three biofiltration systems and proposed permeable landscape areas. With implementation of these proposed components, buildout of the project would not adversely affect local groundwater recharge levels.

The project would not directly pump local groundwater to serve the project's water demand. Domestic water and water for fire protection would be supplied by LADWP (see Section 5.15, Utilities and Service Systems, for a discussion of water supply). Therefore, the project's operational impacts related to groundwater supplies and groundwater recharge would be *less than significant*.

HYD Impact 2
The project would not substantially decrease groundwater supplies or interfere with groundwater recharge. Construction and operational impacts would be less than significant. (CEQA Checklist Appendix G Threshold X. b)
Mitigation Measures
No mitigation is required.

HYD Impact 2
Impacts Following Mitigation
Not applicable. Impacts related to groundwater recharge and groundwater supply would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river 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 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?

CONSTRUCTION

Grading, excavation, and other earth-moving activities associated with project construction could have the potential to alter existing drainage patterns and flows within the project site. Construction activities would be temporary in nature and the drainage patterns would follow the proposed drainage plan as described in the following discussion. During construction, the previously described SWPPP required by the

General Construction Permit would prevent construction site runoff from affecting off-site drainage patterns, as described above in HYD Impact 1, and through the use of BMPs and erosion control measures to be used during construction to prevent erosion and off-site siltation. Compliance with the NPDES Municipal Permits and its MS4 BMP requirements implemented in the SQMP, along with city code requirements, would reduce the amount of pollutants in stormwater runoff through the use of BMPs such as managing surface water runoff, on-site infiltration, and connecting to the existing City stormwater drainage system. Adherence to the regulatory requirements and regulatory plans described above would decrease the potential for drainage pattern alteration and decrease erosion and sedimentation effects. Construction impacts would be *less than significant*.

OPERATION

Based on the calculations provided in the LID and Hydrology Report, implementation of the project would decrease the overall permeability of the project site (Appendix H). When looking at the hydrology study area, which includes both the project site and a portion of the adjacent streets, the overall permeability decreases from 59.3% to 51.9%.

The project's proposed grading and drainage plan for the site has been designed to use the existing topography of the site and maintain historic drainage patterns to the maximum extent feasible, with integration of additional water quality and drainage facilities to meet or exceed applicable LARWQCB Post-Construction Stormwater Management Requirements. The project proposes four drainage

management areas that correspond with the existing drainage outfalls, as described below and shown in Figure 5.9-5:

- Drainage Area 1: Northwestern portion of the project site and expansion of Page Museum (new museum). Runoff drains to Biofiltration Planter 1 and overflows to Oil Creek.
- Drainage Area 2: Parking lot, the Page Museum, and the area to the east of the Page Museum. Runoff drains to Biofiltration Planter 2 and overflows to West 6th Street.
- Drainage Area 3: Southern portion of the project site. Runoff drains to Biofiltration Planter 3 and overflows to the Lake Pit.
- Drainage Area 4: Public right-of way on Wilshire Boulevard. Runoff drains to existing storm drains on consists of runoff that drains to Wilshire Boulevard.

Three of the proposed drainage management areas would include biofiltration planters designed in accordance with LID requirements, as described in threshold a. In the northwestern portion of the site, Oil Creek is proposed to be restored as a bioswale. Runoff would be conveyed to the creek via sheet flow and existing or relocated underground pipes, filtered, and then conveyed to the existing downstream stormwater system. In the northeastern portion of the site, the larger planter within the proposed drop off would be constructed as a biofiltration planter. Runoff would be conveyed to the system via sheet flow, filtered, and then piped to the existing stormwater system. In the southeastern portion of the site, an in-ground biofiltration planter would be constructed. Runoff would be conveyed to the system via sheet flow, filtered, and then conveyed into public storm drain mains in either Wilshire Boulevard or South Curson Avenue.

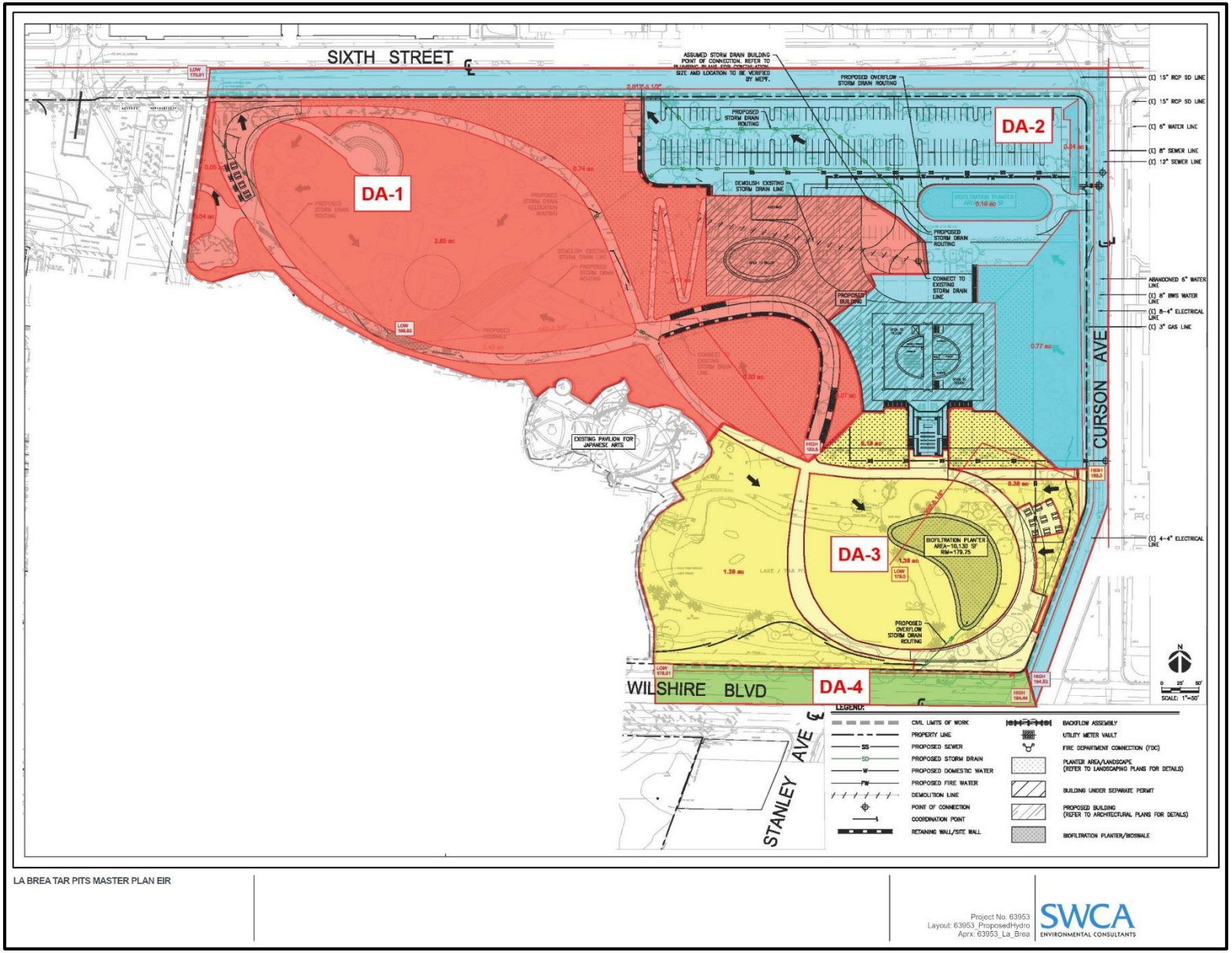

Figure 5.9-5. Proposed drainage plan.

Table 5.9-2 provides a comparison of the 25-year peak discharge flow rates and runoff volume, as well as permeability percentage by drainage area for the existing drainage patterns and the proposed drainage plan. For the purposes of the calculations shown in Table 5.9-2, it is important to note that the hydrology study area is defined as including both the project site and a portion of the adjacent streets (as shown in Figures 5.9.3 and 5.9.5).

Table 5.9-2. Existing and Proposed Drainage Comparison

Drainage Area (DA)	Existing	Proposed	Change
DA-1			
Percent (%) permeability	58.56%	67.04%	8.48%
Peak flow (cfs)	21.19	14.97	(6.22)
Volume (cu-ft)	73,086.58	52,243.53	(20,843.05)
DA-2			
Percent (%) permeability	49.00	17.57	(31.43)
Peak flow (cfs)	5.36	7.49	2.13
Volume (cu-ft)	43,826.33	79,014.93	35,188.60
DA-3			
Percent (%) permeability	85.79	81.55	(4.24)
Peak flow (cfs)	9.65	10.78	1.13
Volume (cu-ft)	17,673.44	21,982.98	4,309.54
DA-4			
Percent (%) permeability	0	0	0
Peak flow (cfs)	1.61	1.35	(0.26)
Volume (cu-ft)	11,350.44	9,566.80	(1,783.64)

Source: KPFF (2023b), provided in Appendix H.

Notes: cfs = cubic feet per second; cu-ft = cubic feet.

As shown in Table 5.9-2, peak flows and runoff volumes would decrease in DA-1 and DA-4, while increasing in DA-2 and DA-3 with implementation of the project. However, as described in the LID and Hydrology Report, the project's proposed runoff volumes are not anticipated to exceed the capacity of the existing storm drain conveyance system for any of the proposed drainage areas or for the project as a whole (Appendix H). Detailed explanations of the calculations shown in Table 5.9-2 are provided in Appendix H. The existing storm drainage infrastructure serving the project site has been designed by the City of Los Angeles to carry storm water flows per the Los Angeles County Hydrology Manual and the City of Los Angeles Department of Public Works Storm Drain Design Manual and is designed to carry the 50-year storm event per the Los Angeles County Hydrology Manual. No known deficiencies exist in the vicinity of the project. Furthermore, the project's proposed drainage plan would increase the water quality of discharged stormwater flows and reduce the peak discharge flow rates out of the site, thereby reducing the impact to downstream conveyance systems. Therefore, the project would be designed to capture, filter, and reduce the volume of any additional runoff from the project's proposed impervious surfaces in a way that mimics, as well as improves, existing drainage patterns. With adequate implementation and maintenance of SWPPPs, erosion and stormwater control plans, and drainage plans that would be required for the project site, the proposed project would not substantially alter the drainage pattern beyond the construction footprint and would not alter off-site drainage patterns. Operational impacts would be *less than significant*.

HYD Impact 3
The project would not substantially alter the existing drainage pattern of the site or increase surface water runoff in a manner that would result in substantial erosion or siltation, flooding, or an exceedance of stormwater drainage systems. Construction and operational impacts would be less than significant. (CEQA Checklist Appendix G Threshold X. c)
Mitigation Measures
No mitigation is required.
Impacts Following Mitigation
Not applicable. Construction and operational impacts related to drainage would be less than significant.

d) Would the project, in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation?

The Pacific Ocean is located over 9 miles southwest of the project site; consequently, there is no potential for the project site to be impacted by a tsunami as tsunamis typically only reach up to a few miles inland. In addition, the project site is not mapped as a tsunami inundation area (California Department of Conservation 2019). While there are two bodies of standing water present on the project site (i.e., the Lake Pit and a small pond that includes Pit 91), the existing grades around these areas are several feet below the edge of the surrounding banks. Given the elevation differences, the potential for the project to result in a seiche from Lake Pit or the small pond near Pit 91 is low.

According to the Safety Element of the General Plan, the project site is located within the potential inundation area for the Hollywood Reservoir, which is held by the Mulholland Dam (DWR 2022). The Mulholland Dam is operated by the LADWP and located in the Hollywood Hills, approximately 6 miles northeast of the project site. Dam safety regulations are the primary means of reducing damage or injury due to inundation occurring from dam failure. The Mulholland Dam, as well as others in California, are continually monitored by various governmental agencies (such as the State of California DSOD and the USACE) to prevent dam failure. Specifically, the California DSOD regulates the siting, design, construction, and periodic review of all dams in the state. In addition, LADWP operates the dams in the Los Angeles area and mitigates the potential for overflow and seiche hazards through control of water levels and dam wall height. These measures include seismic retrofits and other related dam improvements completed under the requirements of the 1972 State Dam Safety Act. Given the oversight by the Division of Safety of Dams, including regular inspections, and the LADWP's emergency response program, the potential for substantial adverse impacts related to inundation at the project because of dam failure would be less than significant.

Additionally, as discussed above, the project would include new structural BMPs throughout the project site which would reduce the amount of pollutants entering the stormwater system and groundwater.

Based on the foregoing, the project site is not located within a flood hazard zone or tsunami zone and the risk of seiche is low. Therefore, there would be no release of pollutants due to project inundation by these hazards during project construction and operation. *No impact* would occur.

HYD Impact 4
The project site is not in a flood hazard zone or tsunami zone and the risk of seiche is low. Therefore, there would be no risk of release of pollutants due to project inundation by these hazards. No construction or operational impacts would occur. (CEQA Checklist Appendix G Threshold X. d)
Mitigation Measures
No mitigation is required.
Impacts Following Mitigation
Not applicable. No construction or operational impacts would occur as the project site is not in a flood hazard zone, tsunami zone, or seiche zone.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Pursuant to Section 303(d) of the Clean Water Act, states are required to identify waterbodies that do not meet their water quality standards. Biennially, the LARWQCB prepares a list of impaired waterbodies in the region, referred to as the 303(d) list. The 303(d) list outlines the impaired waterbody and the specific pollutant(s) for which it is impaired. All waterbodies on the 303(d) list are subject to the development of a TMDL. The project site is located within the Ballona Creek Watershed. Constituents of concern listed for the Ballona Creek Watershed include PCBs, DDT, cadmium, zinc, chlordane, indicator bacteria, PAHs, copper, toxicity, lead, silver, trash, cyanide, and viruses (enteric).

The County of Los Angeles, the City of Los Angeles, and all other cities in the regional watershed are responsible for the implementation of watershed improvement plans or Enhanced Watershed Management Programs to improve water quality and assist in meeting the TMDL thresholds. The objective of the EWMP Plan for the Ballona Creek is to determine the BMPs that will achieve required pollutant reductions while also providing multiple benefits to the community and leveraging sustainable green infrastructure practices. Compliance with the NPDES program would ensure that stormwater pollutants do not substantially degrade water quality during project construction and operation.

The project site is also located in the Coastal Plain of Los Angeles Groundwater Basin, Central Subbasin (referred to as the Central Basin). As noted previously in response to Threshold "HYD-2," implementation of the project would not result in substantial adverse effects on local groundwater supplies or groundwater recharge during project construction and operation.

Potential pollutants generated by the project would be those typical of museum- and park-related land uses and may include sediment, nutrients, pesticides, metals, pathogens, and oil and grease. The implementation of BMPs required by the County's LID Ordinance would target these pollutants to minimize pollutant loads in stormwater runoff. Implementation of the project's LID BMPs (i.e., three biofiltration areas) as well as the project mitigation measure included in HYD Impact 1 outlining the required non-structural BMPs would result in improved surface water runoff quality as compared to existing conditions. Therefore, the project would not introduce new pollutants or an increase in pollutants that would conflict with or obstruct any water quality control plans for the Ballona Creek Watershed.

With compliance with existing applicable regulatory requirements and implementation of LID BMPs, the project would not conflict with or obstruct implementation of a water quality control plan or a sustainable groundwater management plan. Construction and operational impacts would be *less than significant*.

HYD Impact 5
The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Construction and operational impacts would be less than significant. (CEQA Checklist Appendix G Threshold X. e)
Mitigation Measures
No mitigation is required.
Impacts Following Mitigation
Not applicable. Construction and operational impacts would be less than significant.

5.9.6 Cumulative Impact Analysis

Cumulative growth and related development projects in the vicinity of the project site are discussed in Chapter 4, Environmental Setting. The geographic area where projects have a potential to contribute to cumulative impacts varies depending on the environmental resource under consideration. The geographic scope of analysis for cumulative hydrology and water quality impacts on surface water hydrology is limited to the project site and its immediately adjacent area that would flow into the same drainage system. This is because impacts relative to hydrology and water quality are generally site-specific when the site is in a highly developed urban area with limited to no potential for flooding, dam failure, or other larger-scale event. Hydrology and water quality impacts could only be cumulative if two or more projects had impacts that spatially overlapped.

Significant cumulative impacts related to hydrology and water quality could occur if the incremental impacts of the project combined with the incremental impacts of one or more of the cumulative projects identified in Chapter 4 would substantially affect hydrology and water quality. The following cumulative projects would be geographically adjacent to and/or overlap with components of the project, and include activities that could affect hydrology and water quality:

- **Metro D (Purple) Line Extension:** Extension of underground light rail transit service infrastructure to parallel Wilshire Boulevard located directly adjacent to the project site along with seven new transit stations. This project is under construction with the first phase (Wilshire/ La Brea, Wilshire/Fairfax, and Wilshire/ La Cienega Stations) anticipated to be completed and in operation by 2024.
- **Los Angeles County Museum of Art Renovation:** Located directly adjacent to the project site (on parcels directly west and south across Wilshire Boulevard) at 5906 West Wilshire Boulevard. The project includes museum renovation and is under construction with an anticipated completion date of 2024.

The project would have no impact with respect to flood potential and impacts associated with inundation, by seiche or tsunami (threshold d). Therefore, the project would not contribute to cumulative impacts related to these topics and they are not discussed further.

Through compliance with existing regulations, the project would result in less than significant impacts related to groundwater supplies and groundwater recharge (threshold b), existing drainage patterns (threshold c) and conflicts with applicable water quality control plan or sustainable groundwater management plan (threshold e). Each of the related projects, as well as future development projects within the project vicinity would be subject to compliance with the requirements of the LARWQCB and the City or County, as applicable. In addition, discretionary development projects subject to review under CEQA would be evaluated for potential impacts associated with groundwater recharge, existing drainage patterns, and consistency with applicable water quality and groundwater management plans. Therefore, the project, in conjunction with the related projects, would not contribute to cumulative construction or operational impacts related to these issues.

Due to the existing built-out nature of the project site and the project vicinity, cumulative development would be expected to result in a minimal overall change to urban pollutant discharges to surface water runoff and groundwater percolation rates. However, construction activities could result in increased pollution levels of natural watercourses or underground aquifers. The types of pollutant discharges that could occur as a result of construction include accidental spillage of fuel and lubricants, discharge of excess concrete, and an increase in sediment runoff. Storm runoff concentrations of oil, grease, heavy metals, and debris typically increase as the amount of urban development increases in the watershed. Polluted runoff that may be generated during construction activities of cumulative development and projects considered in this analysis would be regulated by the SWRCB under NPDES Construction General Permits and would be minimized using standard construction BMPs. With adherence to these regulatory standards, the project's contribution to cumulative construction impacts would be *less than significant*.

As discussed in Section 5.9.5, threshold a), implementation of the project would increase impervious surfaces within the project site and project operation would have the potential to contribute to the degradation of surface or groundwater quality. If project mitigation were not to be implemented, it is conceivable that the project would contribute to cumulative impacts related to degradation of surface or groundwater quality. Therefore, cumulative operational impacts could be *significant*.

HYD Impact 6 (Cumulative)
Prior to consideration of the proposed mitigation measures, operation of the project could have the potential to contribute to the degradation of surface or groundwater quality. If unaddressed, potential contributions to cumulative impacts associated with degradation of surface or groundwater quality could be significant.
Mitigation Measures
Implement Mitigation Measures HYD/mm-1.1 and 1.2.
Impacts Following Mitigation
With implementation of Mitigation Measures HYD/mm-1.1 and 1.2, project's contribution to cumulative impacts related to the degradation of surface or groundwater quality would be less than significant.