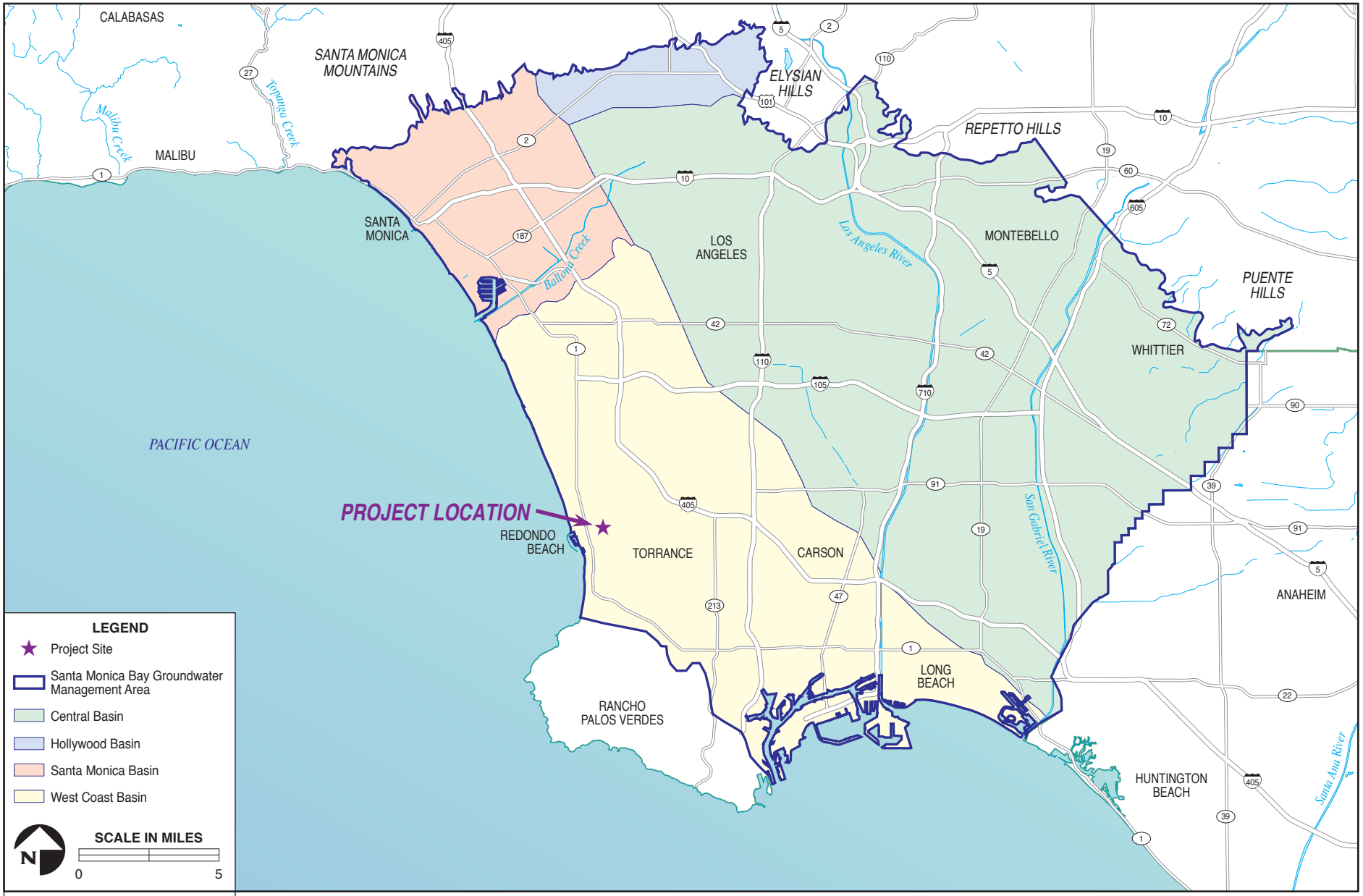
3.9 HYDROLOGY AND WATER QUALITY

This section of the Environmental Impact Report (EIR) discusses the potential impacts of the proposed Beach Cities Health District (BCHD) Healthy Living Campus Master Plan (Project) on surface water and groundwater resources Redondo Beach and Torrance in the immediate vicinity of the Project site. The discussion focuses on surface water, groundwater, flooding, coastal processes and hazards (e.g., sea level rise and coastal flooding), and other drainage conditions on the Project site and in the surrounding watersheds. Related issues addressed in other sections of this EIR include: domestic water infrastructure and supply in Section 3.15, *Utilities and Service Systems*; groundwater basin geology and groundwater-related geotechnical hazards in Section 3.6 *Geology and Soils*; and the potential for groundwater contamination from hazardous materials in Section 3.8, *Hazards and Hazardous Materials.*

3.9.1 Environmental Setting

Watershed and Regional Setting

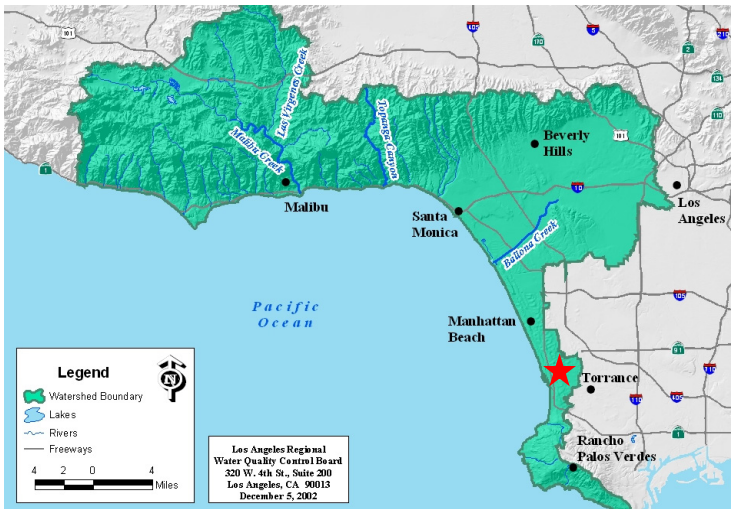
Redondo Beach and Torrance – including the BCHD campus – are located within the West Coast Subbasin of the Coastal Plain of Los Angeles County Watershed Basin, commonly referred to as the "West Coast Basin." The West Coast Basin encompasses 91,300 acres and is bounded on the north by the Ballona Escarpment (a bluff just south of Ballona Creek), on the east by the Newport-Inglewood fault zone, on the south by the Palos Verdes hills, and on the west by the Pacific Ocean (California Department of Water Resources [DWR] 2004). The Los Angeles River crosses the West Coast Basin through the Dominguez Gap and the San Gabriel River crosses the West Coast Basin through the Alamitos Gap; both rivers then outlet into San Pedro Bay (DWR 2004).



wood.

Regional Watershed

FIGURE 3.9-1



The Project site (denoted by the red star) located within the Santa Monica Bay WMA, between Topanga Canyon Creek and Ballona Creek sub-watersheds, where the topography causes runoff to flow to the Santa Monica Bay.

Redondo Beach and Torrance are located within the Santa Monica Bay Watershed Management Area (WMA) and the Dominguez Channel WMA of the Los Angeles Regional Water Quality Control Board (RWQCB). The southern portion of Redondo Beach (i.e., south of Grant Avenue) and western portions of Torrance – including the BCHD campus – are located within the Santa Monica Bay WMA. The northern portion of Redondo Beach and the majority of Torrance are located within the Dominguez Channel WMA. These two WMAs are included in the Beach Cities Enhanced Watershed Management Program (EWMP). Management groups of the Beach Cities EWMP include the cities of Manhattan Beach, Hermosa Beach, Redondo Beach, Torrance, and the Los Angeles County Flood Control District (LACFCD).

The Santa Monica Bay WMA encompasses an area of 414 square miles and includes several watersheds between the southern Ventura-Los Angeles County line and downtown Los Angeles (State Water Resources Control Board [SWRCB] 2014, 2018). The Santa Monica Bay WMA drains the Santa Monica Mountains and coastal portions of the cities located along the Santa Monica Bay, including the cities of Malibu, Santa Monica, Los Angeles, El Segundo, Manhattan Beach, Hermosa Beach, Redondo Beach, Palos Verdes Estates, and Rancho Palos Verdes. Headwaters of the Santa Monica Bay Watershed originate from the crest of the Santa Monica Mountains and are conveyed throughout the watershed by Ballona Creek, Malibu Creek, Topanga Creek, and numerous tributaries (Los Angeles RWQCB 2014). In the southern and eastern parts of the watershed, surface water is also generated as runoff and transported through storm drains and channels because these areas are highly urbanized. The Santa Monica WMA drains generally to the southwest and discharges directly to the Santa Monica Bay and Pacific Ocean (SWRCB 2014, 2018). The Santa Monica Bay is located adjacent to one of the most populated and urbanized coastal metropolitan areas in the U.S., and discharge of treated municipal, commercial, and industrial runoff, cooling water, and wastewater impacts regional water resources, including inland

surface waters, estuarine waters, and marine waters, such as wetlands, lakes, rivers, estuaries, lagoons, harbors, bays, and beaches.

Local Surface Water Hydrology and Drainage

Portions of both Redondo Beach and Torrance are bounded to the west by the Pacific Ocean. Except for parks, landscaping, and active construction sites with exposed soils, the Project site and vicinity are largely developed with buildings, roadways, and paved surface parking lots that prevent natural infiltration. Surface water within the cities is generally limited to sheet flow (i.e., overland flow or downslope movement of water taking the form of a thin, continuous film) to curbed gutters, which empty into the municipal storm drain system. The nearest waterbodies to the Project site are the Dominguez Channel, a major regional drainage facility located approximately 5.5 miles to the east, Ballona Creek, located approximately 9 miles to the north, and the Santa Monica Bay of the Pacific Ocean, located approximately 1 mile to the east.

Stormwater Drainage and Infrastructure

The stormwater drainage infrastructure network within Redondo Beach is comprised of a cooperative multi-jurisdictional system with approximately 25 percent of the facilities operated and maintained by the City of Redondo Beach Department of Public Works (DPW) and the remaining 75 percent of facilities maintained by the LACFCD. The storm drain network includes catch basins at street level and storm drains beneath local streets that collect and convey stormwater and dry weather (i.e., non-stormwater) runoff within Redondo Beach to one or more of 13 ocean drainage outfall pipes along the shoreline. The majority of the storm drains are located in northern portion of Redondo Beach as the elevated topography of portions of the southeastern portion of Redondo Beach allows for better natural drainage and discharge to water bodies. Stormwater and dry weather runoff collected within Redondo Beach follow three general patterns:

1. Stormwater collected from the north and northeastern portions Redondo Beach is carried out of the City through the storm drain system into Dominguez Channel to the east;
2. Stormwater collected from the southern portion Redondo Beach is conveyed directly to the Pacific Ocean through one of 13 drainage outfalls located along the southwestern shoreline of the City (south of Hermosa Beach); and
3. Water that is collected in one of five different sumps or sump pumps located throughout the City that is force-pumped back into and through the system and drained through one of the ocean drainage outfall pipes.

In addition to the storm drain network, there are three City-operated sumps and pump stations and two City-operated independent sump pumps that collect stormwater and dry weather runoff into sumps throughout Redondo Beach (City of Redondo Beach 1993). This excess water is then pumped up into gravity drains convey the water directly to the Pacific Ocean through the drainage outfalls. Pollution of the Redondo Beach storm drain system is prevented through implementation of the City's National Pollutant Discharge Elimination System (NPDES) permit, which includes stormwater and urban runoff discharge into municipal storm drain systems (refer to Section 3.9.2, *Regulatory Setting*).

Water Quality

Urban runoff – including stormwater and dry weather runoff – contains a wide range of debris and pollutants. Impervious surfaces increase the volume and rate of urban runoff and can result in degraded surface water quality. Stormwater and dry weather runoff carrying increased concentrations of surface water pollutants can have harmful effects on drinking water, recreational water, and wildlife.

Surface water pollutants originate from two types of sources:

- **Point Sources** refer to discrete discharges of surface water pollutants from specific generators into receiving waters, including pipes or man-made ditches. Point sources are regulated in accordance with the National Pollutant Discharge Elimination System (NPDES) program (see Section 3.9.2, *Regulatory Setting*).
- **Non-Point Sources** refer to stormwater and dry weather runoff that washes, scours, and intercepts pollutants from the air and ground, including solid waste, leaked motor oil, or heavy metals or chemicals deposited on pavements or vegetation. Urban runoff includes all surface water draining from streets, parking lots, driveways, and landscaping that flows through the storm drain system to treatment facilities and ultimately to Santa Monica Bay.

Two principal water quality plans are applicable to Redondo Beach and the Santa Monica Bay: the California Ocean Plan (Ocean Plan) (2019) and the Water Quality Control Plan for the Los Angeles Basin (Los Angeles Basin Plan) (2014). For coastal sites, the Ocean Plan includes objectives for the protection of marine water quality. Under the Los Angeles Basin Plan, urban runoff must meet guidelines set by the Los Angeles Regional RWQCB to retain the beneficial use of the receiving water bodies. The Los Angeles Basin Plan defines beneficial uses within Redondo Beach as industrial service supply, navigation, commercial and sport fishing, marine and wildlife habitat including rare, threatened, or endangered species, migration of aquatic organisms, shellfish harvesting, and spawning, reproduction, and/or early development habitat for fish (Los Angeles

RWQCB 2019b). The Los Angeles Basin Plan also defines beneficial uses of Santa Monica Bay as industrial service supply; navigation; contact and noncontact water recreation; commercial and sport fishing; estuarine habitat; marine and wildlife habitat; preservation of biological habitats; migration of aquatic organisms; rare, threatened or endangered species; shellfish harvesting, spawning, reproduction, and/or early development of fish (Los Angeles RWQCB 2019b).

The location of the Santa Monica Bay downstream of the Los Angeles metropolitan area has resulted in adverse impacts to water quality. In response to these conditions and subsequent lawsuits, a consent decree was issued in 1999 between the U.S. Environmental Protection Agency (USEPA), Heal the Bay, Inc., and BayKeeper, Inc. to establish Total Maximum Daily Loads (TMDLs) for pollutants in the Santa Monica Bay, necessary to meet Federal water quality standards. The consent decree also mandated the establishment of best management practices (BMPs) to address water quality concerns in the Santa Monica Bay. In order to address water quality impairments in the Santa Monica Bay, the Los Angeles RWQCB and USEPA developed two TMDLs: the Santa Monica Bay Bacteria Dry Weather TMDL (2002) and the Santa Monica Bay Bacteria Wet Weather TMDL (2002). [1] Two additional TMDLs were approved by Los Angeles RWQCB and the USEPA, Santa Monica Bay Total Maximum Daily Loads for Dichlorodiphenyltrichloroethanes (DDTs) and PCBs (2012) and Santa Monica Bay Nearshore and Offshore Debris TMDL (2010). Revisions to the Santa Monica Bay Nearshore and Offshore Debris TMDL were made in 2019 and adopted by the Los Angeles RWQCB.

To improve the condition of the Santa Monica Bay and meet TMDLs, applicants of projects and activities that may result in pollutant discharges are required to achieve pollutant load reduction targets through various means, including implementation of projects identified in the Watershed Management Plans (WMPs) and EWMPs under the stormwater discharge permits. There are also collaborative and integrated watershed-wide planning and implementation efforts, such as the Storm Water Strategy, an effort led by the SWRCB to sustainably manage and utilize stormwater in California to support water quality and water availability, and the Integrated Water Resource Management Plan (IRWMP) for the Los Angeles metropolitan area, including the availability and allocation of bond funding to facilitate and contribute to water quality improvement planning and implementation efforts in the region.

The Santa Monica Bay Restoration Commission (SMBRC) 2018 Update of the Bay Restoration Plan notes that substantial progress had been made in the last 30 years in improving water quality

[1] A Total Maximum Daily Load (TMDL) is a regulatory term in the Clean Water Act (CWA), describing a plan for restoring impaired waters that identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.

The Santa Monica Bay Restoration Commission (SMBRC) 2018 Update of the Bay Restoration Plan notes that substantial progress had been made in the last 30 years in improving water quality in the Santa Monica Bay. However, both Redondo Beach and the Santa Monica Bay are identified as impaired water bodies under Clean Water Act (CWA) Section 303(d) (SWRCB 2016). As listed in **Error! Reference source not found.**, there are impairments related to three types of pollutants in Redondo Beach and five types of pollutants in Santa Monica Bay.

Table 3.9-1. Impaired Water Bodies within the Vicinity of the Project Site

Water Body Name	Water Body Extent	Listing Category	Pollutant	Potential Source
Redondo Beach – Coastal & Bay Shoreline	1.49 miles	4A	DDT (tissue)	Source Unknown
			Indicator Bacteria	Nonpoint
			PCB (tissue)	Source Unknown
Santa Monica Bay Offshore/Nearshore – Bay & Harbor	146,645 acres	5	Arsenic	Source Unknown
			DDT (tissue)	Source Unknown
			Mercury	Source Unknown
			PCBs (sediment)	Source Unknown
			Trash	Source Unknown

Notes: DDT = Dichlorodiphenyltrichloroethane; PCBs = Polychlorinated biphenyls; Category 4A means the item on the 303(d) list is being addressed by an USEPA approved TMDL; Category 5 means the item on the 303(d) list has listed pollutants that require the development of a TMDL.
Source: SWRCB 2017.

In addition, the 2018 Update of the Bay Restoration Plan observed that while existing water quality improvement programs have achieved significant reduction of pollutant loading, many new contaminants are emerging and causing concern. The emerging contaminants include, but are not limited to, polybrominated diphenyl ethers (PBDEs), which are used primarily as flame retardants, perfluorinated chemicals that are used as stain repellants, and other pharmaceuticals or other personal care products that may harm aquatic life or the environment (SMBRC 2018).

Groundwater

As described in Section 3.6, *Geology and Soils*, Redondo Beach and Torrance are located within the West Coast Groundwater Basin (Basin), a subbasin of the Los Angeles Groundwater Basin. The Basin underlies 160 square miles and extends in a southwesterly direction along the coast from the Newport-Inglewood Uplift to the Santa Monica Bay. The principal aquifers present in the Basin include: Semiperched; Bellflower; Gaspur; Bellflower; Gardena; Gage; Lynwood; Silverado; and Unammed (DWR 2004). Depth to groundwater within the Semiperched Aquifer ranges from nearly 10 feet above mean sea level (MSL) to more than 60 feet below MSL (DWR

2004; Water Replenishment District of Southern California [WRD] 2020). (The Semiperched Aquifer is located closest to the ground surface and is characterized by a semi-pervious layer, through which flow into or out of the aquifer can take place.) The highest water levels are along the West Coast Basin Seawater Intrusion Barrier; they decrease to the east where they are at their lowest elevations in the City of Gardena between the Charnock Fault and Newport-Inglewood Uplift, both of which are geologic structural features that partially restrict groundwater flow.

In 1961, the Basin was adjudicated, which limits the allowable annual extraction of groundwater per water rights holder within the Basin in order to prevent seawater intrusion and an unhealthy groundwater level. As part of the adjudication, the court appointed the DWR to serve as Watermaster to account for all water rights and groundwater extraction amounts per year. Since the adjudicated groundwater production is substantially higher than the natural recharge of the Basin, the California State Legislature created the WRD to manage, regulate, and replenish the Basin. Each year WRD determines the amount of supplemental recharge that is needed for the Basin based upon annual groundwater extractions and groundwater levels. As part of the recharge and protective duties, WRD procures imported water and recycled water for the West Coast Basin Barrier Project and Dominguez Gap Barrier Project to prevent seawater intrusion. Following its inception, WRD implemented the Regional Groundwater Monitoring Program (RGWMP) as a program designed to track groundwater levels and groundwater quality in the WRD service area in the effort to ensure the sustainability of groundwater as a reliable resource.

Groundwater Recharge

Groundwater recharge to the Basin generally occurs through natural underflow from the Central Basin through and over the Newport-Inglewood fault zone as well as through injection of imported water and recycled water into wells of the seawater intrusion barrier (DWR 2004; U.S. Geological Survey [USGS] and SWRCB 2012). The general regional groundwater flow pattern is southward and westward from the Central Coastal Plain toward the Pacific Ocean (DWR 2004). However, groundwater flow directions are controlled by the engineered recharge and by groundwater pumping from the many hundreds of wells distributed across the region (USGS and SWRCB 2012). Minor replenishment to the Basin occurs from infiltration of surface inflow from both the Los Angeles and San Gabriel Rivers into the uppermost aquifers. Other minor sources of recharge by infiltration from the surface include return irrigation water from fields and lawns, industrial waters, and other applied surface waters (DWR 2004). Surface water flows from upland areas do not substantially contribute to recharge in the immediate vicinity of Redondo Beach and Torrance, however, because the water is generally directed through storm drains or other channelized features that do not allow the water to infiltrate permeable soils.

Groundwater Quality

In the West Coast Basin, the most critical issue related to groundwater quality is high total dissolved solids (TDS) along the Pacific Ocean due to seawater intrusion as identified by DWR. Seawater intrusion occurs if too much freshwater is pumped from the aquifer system, allowing saltwater to migrate landward and potentially infiltrate the Basin. If a pumping well is close to the landward migrating freshwater/saltwater interface, saltwater could enter the well and contaminate the water supply. Seawater intrusion occurs in the Basin zone along the Santa Monica Bay. Two seawater barrier projects are currently in operation to address and prevent seawater intrusion. The West Coast Basin Barrier Project runs from the Los Angeles Airport to the Palos Verdes hills. The Dominguez Gap Barrier Project covers the area of the Basin bordering San Pedro Bay. Injection wells along these barriers create a groundwater ridge, which inhibits the inland flow of salt water into the subbasin to protect and maintain groundwater elevations (DWR 2004).

Groundwater quality is addressed at a state level through the DWR Sustainable Groundwater Management Act (SGMA) and at a local level through the Los Angeles Basin Plan. Enacted in 2014, SGMA evaluated and prioritized California's basins and subbasins for groundwater management requirements based on several criteria including but not limited to groundwater overdraft, water quality, irrigated acres, population, and groundwater reliance. The West Coast Basin was determined to be "very low" priority by DWR due to its low levels of criteria pollutants and relatively stable groundwater levels; therefore, the Basin is not subject to a sustainable groundwater management plan under SGMA. The Los Angeles Basin Plan addresses groundwater issues within the Basin as part of the Coastal Plain of Los Angeles Groundwater Basin. In order to meet drinking water standards, the Los Angeles Basin Plan sets forth groundwater quality parameters for four primary constituents of concern in the Basin: 1) TDS; 2) sulfates; 3) chloride; and 4) boron. The groundwater quality objectives assigned to the Basin by the Los Angeles RWQCB are outlined in Table 3.9-12.

Table 3.9-2. Groundwater Quality Objectives for the West Coast Basin (No. 4-11.03)

Pollutant (mg/L)			
TDS	**Sulfate**	**Chloride**	**Boron**
800	250	250	1.5

Notes: TDS = total dissolved solids; mg/L = milligrams per liter.
Source: Los Angeles RWQCB 2019b.

- **TDS** are dissolved solids plus suspended and settleable solids in water consisting of calcium, chlorides, nitrate, phosphorus, iron, sulfur, and other ion particles that will pass through a filter. Higher concentrations of TDS can affect water clarity, diminish

photosynthesis, lead water sources to retain heat, and adversely affect the taste of drinking water. Sources of TDS include industrial discharges, sewage, fertilizers, urban runoff, soil erosion, and saltwater intrusion to the basin.

- **Sulfates** are found almost universally in natural waters at concentrations ranging from a few tenths to several thousand milligrams/liter (mg/L). The highest concentrations are usually found in groundwater and are considered to be a mixture of sulfates from atmospheric, geochemical, and biological sources. Sulfates are discharged into surface water through industrial wastes and atmospheric deposition of sulfur dioxide (USEPA 2003). Consumption of high sulfate concentrations in drinking water can cause cathartic effects or dehydration.
- **Chloride** in drinking water is not harmful but can adversely affect taste in drinking water. Chloride in surface and groundwater originates from both natural and anthropogenic sources, such as run-off containing road de-icing salts, the use of inorganic fertilizers, landfill leachates, septic tank effluents, animal feeds, industrial effluents, irrigation drainage, and seawater intrusion in coastal areas (World Health Organization 2003).
- **Boron** is a naturally occurring element that is present in groundwater primarily as a result of leaching from rocks and soils containing borates and borosilicates but can also enter the environment through man-made processes such as manufacturing High concentrations of Boron can have toxic effects on aquatic life and terrestrial plants. Exposure to high levels of boron can also adversely affect fetal development (World Health Organization 1998).

Flooding and Sea Level Rise

The Project site is not located within the immediate vicinity of any major creeks, rivers, or other watercourses that may pose a threat from riverine flooding. Portions of Redondo Beach, primarily along the coastline, are located within the 100-year flood plain and therefore are at risk for coastal flooding (Federal Emergency Management Agency [FEMA] 2020). However, the Project site is located approximately 1.2 miles inland from the Pacific Ocean and within the FEMA Flood Zone X, which denotes an area where the potential for flooding is minimal (FEMA 2020). Due to its inland location, the Project site is not within a mapped tsunami inundation hazard area and is not at risk for tsunami inundation (California Department of Conservation 2009).

Coastal stormwater and sewer infrastructure within Redondo Beach and Torrance is vulnerable to sea level rise. As groundwater elevations increase due to sea level rise, saltwater intrusion could occur and reduce stormwater capacity, which could lead to localized flooding (County of Los Angeles 2016). However, given that the Project site is located approximately 1.2 miles inland from

the shoreline of the Pacific Ocean and approximately 146 to 166 feet MSL, stormwater and sewer infrastructure serving the Project site are not at risk of damage from projected sea level rise.

Existing Conditions at the Project Site

Site Drainage

A site-specific Hydrology and Water Quality Report was prepared for the proposed Project by John Labib & Associates (2021) (see Appendix H) and peer reviewed by Wood Environment & Infrastructure, Inc. (Wood) civil engineers. As described in Section 2.2.2, *Existing Project Site*, the Project site consists of the existing 9.35-acre fully developed BCHD campus and the adjacent 0.43-acre vacant Flagler Lot. The BCHD campus is developed with 1- to 5-story buildings, a subterranean parking garage, a parking structure, and surface parking lots. Landscaped areas are limited to perimeter planters, small lawns areas, and landscaped trees (particularly along the western boundary of the Project site; refer to Section 3.3, *Biological Resources*). The vacant Flagler Lot is unpaved, which allows stormwater to infiltrate into the ground.

The BCHD campus is higher in elevation than the adjacent properties, while the vacant Flagler Lot is similar in elevation to the surrounding features including Beryl Street, Flagler Lane, and the Redondo Village Shopping Center. The BCHD campus is elevated by approximately 25 feet above the shopping center to the north along Beryl Street and by approximately 30 feet above Flagler Lane and Flagler Alley to the east. The topography of the Project site is relatively flat, with gentle slopes varying from approximately 146 to 166 feet MSL and surface gradients to the northeast. The vacant Flagler lot has an approximate 2:1 gradient with surface elevations sloping towards the eastern portion of the site. Runoff from the BCHD campus sheet flows towards the perimeters of the campus where it is conveyed to the exiting municipal stormwater drainage systems, whereas runoff from the vacant Flagler Lot is infiltrated into the unpaved ground or flows towards the east where it discharges to curb drains. The northeast portion of the Project site drains to an existing catch basin and an 18-inch storm drain line that discharges into the City of Torrance municipal storm drain system beneath Flagler Lane (see Figure 3.9-2). The northwest portion of the Project site drains westerly toward North Prospect Avenue and the remaining south and southeast portions of the site drain to the southwest toward North Prospect Avenue. These flows eventually discharge to the curb and gutter in North Prospect Avenue and eventually outlet into the City of Redondo Beach municipal storm drain system (see Figure 3.9-2) (John Labib & Associates 2021).

Approximately 369,633 square feet (sf) or 81.7 percent of the Project site is covered in impervious surface area (John Labib & Associates 2021). The Los Angeles County's HydroCalc Calculator was used to determine the existing peak runoff rates at the Project site during the 10-, 50-, and

100-year storm events (see Appendix H). HydroCalc is a software based on the Modified Rational Method (MODRAT), as outlined by the Los Angeles County Public Works Department (LACDPW) Hydrology Manual (2006).

The LACDPW 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. Further, the Los Angeles RWQCB allows the use of 85th percentile 24-hour rainfall event or the 0.75-inch event for Standard Urban Storm Water Mitigation Plan (SUSMP) and BMP design hydrologic studies. The 85th percentile storm is used to represent the approximate amount of rainfall that would occur from 85 percent of storms occurring in the Los Angeles RWQCB region.[2] The 85th percentile 24-hour rainfall depths vary from 0.30 to 1.50 inches within the Los Angeles County (LACDPW 2004). The Hydrology and Water Quality Report prepared for the proposed Project modeled peak flow for stormwater discharge occurring during the 85th percentile storm to represent a likely scenario for rainfall in the region.

The street flow capacity of the storm drain in North Prospect Avenue is approximately 225 cubic feet per second (cfs). The peak flow generated from a 50-year storm event at the Project site is approximately 20 cfs (see Table 3.9-3).

Table 3.9-3. Existing 85th Percentile 10-, 50- and 100-year Peak Stormwater Discharge at the Project Site

	85th Percentile	10-Year	50-Year	100-Year
Clear Peak Flow Rate (cfs)	1.4	12.0	20.0	24.1
24-Hour Clear Runoff Volume (cubic feet)	21,161	105,038	147,568	165,791

Notes: The standard for storm water pollutant control is retention of the 24-hour 85th percentile storm volume, defined as the event that has a precipitation total greater than or equal to 85 percent of all daily storm events larger than 0.01 inches over a given period of record in a specific area or location.
Source: John Labib & Associates 2021; see Appendix H.

[2] The standard for storm water pollutant control is retention of the 24-hour 85th percentile storm volume, defined as the event that has a precipitation total greater than or equal to 85 percent of all daily storm events larger than 0.01 inches over a given period of record in a specific area or location.

wood.

Existing Site Drainage

FIGURE 3.9-2

Groundwater

The Project site is located within the West Coast Groundwater Basin of the Los Angeles Coastal Plain and approximately along the West Coast Basin Seawater Intrusion Barrier, both are located approximately 1 mile east of the Redondo Beach King Harbor. Based on the findings of the subsurface soil investigations, groundwater was not encountered at a boring depth of 61.5 feet (refer to Section 3.6, *Geology and Soils*; see Appendix F). Groundwater levels may fluctuate with the seasons, and zones of perched groundwater may be present at various depths due to local conditions or during rainy seasons. Groundwater conditions below any given site vary depending on numerous factors including seasonal rainfall, local irrigation, and groundwater pumping, among other factors not evident at the time of exploration (Converse Consultants 2016).

As described further in Section 3.8, *Hazards and Hazardous Materials*, no collected soil samples contained contaminants above screening levels. Three collected soil vapor samples contained contaminants at levels above their screening levels. These contaminants included tetrachloroethylene (PCE), benzene, and chloroform. Given that the proposed Project is nearly entirely developed with impervious surface and because groundwater was not encountered at a maximum boring depth of 61.5 feet, PCE contamination is not likely to have affected underlying groundwater at or near the Project site.

3.9.2 Regulatory Setting

Federal Regulations

Clean Water Act

The CWA (33 U.S. Code [USC] §§1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and authorizes Federal (i.e., USEPA), State, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of Sate waters and tributaries. The CWA sets water quality standards for all contaminants in surface waters and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires States to establish site-specific water quality standards for navigable bodies of water to enhance beneficial uses of water, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. Under the CWA, States are required to identify the waters within its boundaries that do not meet water quality standards, and establish a TMDL for each of the pollutants impairing the water quality standards in that water body. As previously described, Redondo Beach and Santa Monica Bay are listed as

impaired water bodies on the CWA Section 303(d) List. Key provisions of the CWA address water quality standards and the establishment of the NPDES program for controlling the discharge of stormwater. The NPDES program regulates stormwater discharges from three potential sources: Municipal Separate Storm Sewer System (MS4), construction activities, and industrial activities. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain a NPDES permit and develop a stormwater management program. Implementing programs intended to meet TMDLs defined under the NPDES program are managed at the State and regional levels, as discussed below.

FEMA National Flood Insurance Program

The National Flood Insurance Program offers flood insurance to homeowners, renters, and business owners if their community participates in the program. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.

State Regulations

The California Environmental Protection Agency (CalEPA) is charged with developing, implementing, and enforcing the State's environmental protection laws. The SWRCB and nine RWQCBs – including the Los Angeles RWQCB – operate under the regulatory authority of the USEPA. The SWRCB, a branch of CalEPA, and the RWQCBs have the responsibility of granting NPDES permits for certain point source discharges. California issues NPDES permits to selected point source dischargers and issues either waste discharge requirements or conditioned water quality certification for other discharges.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Act established the SWRCB and divided the State into nine regional basins, each under the jurisdiction of a RWQCB. The SWRCB is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. The Porter-Cologne Act states that a RWQCB may include water discharge prohibitions applicable to particular conditions, areas, or types of waste within its regional plan. California Water Code Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative.

NPDES Construction General Permit

The SWRCB regulates stormwater runoff from construction activities under Order No. 2009-009-Division of Water Quality (DWQ), as amended by 2010-0014-DWQ and 2012-0006-DWQ. Construction activities subject to the NPDES Construction General Permit include sites that disturb an area of 1 acre or more, and small construction sites less than 1 acre but part of a larger common plan of 1 acre or more. The Order requires that, prior to beginning any construction activities, the applicant must obtain coverage under the General Construction Permit by preparing and submitting a Notice of Intent (NOI) and an adequate Stormwater Pollution Prevention Plan (SWPPP). The SWPPP has two major objectives: 1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and 2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges. Required elements of a SWPPP include: 1) site description addressing the elements and characteristics specific to the site; 2) descriptions of BMPs for erosion and sediment controls; 3) BMPs for construction waste handling and disposal; 4) implementation of approved local plans; 5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and 6) non-stormwater management. 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 water body listed on the CWA Section 303(d) List for sediment.

All construction activities related to the proposed Project are subject to the requirements in the Construction General Permit. The current permit, as amended, establishes the following:

- **Technology-based Numeric Action Levels (NALs):** The Construction General Permit includes NALs for pH and turbidity. NALs are essentially numeric benchmark values for certain parameters that, if exceeded in effluent sampling, trigger the discharger to take actions. Exceedance of an NAL does not itself constitute a violation of the Construction General Permit; however, if the discharger fails to take the corrective action required by the Construction General Permit, that may constitute a violation.
- **Technology-based Numeric Effluent Limitations (NELs):** The Construction General Permit contains NELs for pH during any construction phase where there is a high risk of pH discharge and turbidity for all discharges.
- **Risk-based Permitting Approach:** The Construction General Permit establishes a four-level risk calculation. Those dischargers that are determined to be Risk Level 4 are not covered by the Construction General Permit, and thereby are required to submit a Report

of Waste Discharge to the appropriate RWQCB and seek coverage under an individual or other applicable general permit.

- **Minimum Requirements Specified:** The Construction General Permit specifies more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.
- **Project Site Soil Characteristics Monitoring and Reporting:** The Construction General Permit requires all dischargers to monitor and report soil characteristics. The primary purpose of this requirement is to provide better risk determination and eventually better program evaluation.
- **Effluent Monitoring and Reporting:** The Construction General Permit requires effluent monitoring and reporting for pH and turbidity in stormwater discharges. The purpose of this monitoring is to be used to determine compliance with the NELs and evaluate whether NALs included in this Construction General Permit are exceeded.
- **Receiving Water Monitoring and Reporting:** The Construction General Permit requires some Risk Level 2 and Risk Level 3 dischargers to monitor receiving waters.
- **New Development and Redevelopment Stormwater Performance Standards:** The Construction General Permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES Permit, to avoid, minimize and/or mitigate post-construction stormwater runoff impacts.
- **Rain Event Action Plan:** The Construction General Permit requires sites to develop and implement a Rain Event Action Plan that must be designed to protect all exposed portions of the site within 48 hours prior to any likely storm event.
- **Site Photograph Self-Monitoring and Reporting:** The Construction General Permit requires all projects to provide photographs of their sites at least once quarterly if there are storm events causing a discharge during that quarter. The purpose of this requirement is to help RWQCB staff prioritize their compliance evaluation measures (e.g., inspections). In addition, this reporting makes compliance-related information more readily available to the public.
- **Annual Reporting:** The Construction General Permit requires all projects that are enrolled for more than one continuous 3-month period to submit information and annually certify that their site complies with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and public information.
- **Certification/Training Requirements for Key Project Personnel:** The Construction General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate

to ensure their ability to design and evaluate project specifications that will comply with all applicable requirements.

Water Quality Control Plan for Ocean Waters of California (Ocean Plan)

California Water Code, Division 7, Section 13000 includes water quality objectives for the protection of oceanic water quality. The revised Ocean Plan was adopted by the SWRCB in 2005 and approved by the USEPA in 2006. The Ocean Plan contains water quality objectives for ocean waters of the State to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The Ocean Plan also sets forth effluent limits or levels of water quality characteristics that apply to all discharges to the coastal waters of California. Waste management systems that discharge to the ocean must be designed and operated in a manner to maintain a healthy marine ecosystem and not adversely impact the health of recreational users. Pursuant to California Water Code Section 13263(a), the requirements of the NPDES program implement the Ocean Plan.

Sustainable Groundwater Management Act

The SGMA requires to medium- and high-priority basins to develop groundwater sustainability agencies (GSAs), develop groundwater sustainability plans (GSPs) by January 31, 2022, and manage groundwater for long-term sustainability. The West Coast Basin, where the City of Redondo Beach and City of Torrance, are located is designated as a "very low" priority basin. Therefore, the West Coast Bain is not subject to the requirements of the SGMA (DWR 2020).

California Toxics Rule

The USEPA has established numeric water quality criteria for certain toxic substances for California via the California Toxics Rule (CTR). The CTR establishes acute and chronic surface water quality standards for bodies of water such as inland surface waters and enclosed bays and estuaries that are designated by the RWQCBs as having beneficial uses protective of aquatic life (23 priority toxics) or human health (57 priority toxics). Numeric criteria established in the CTR are the same as those recommended by the USEPA in the CWA Section 304(a) guidance. The CTR also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met.

State Antidegradation Policy

In accordance with Federal Antidegradation Policy, the SWRCB adopted in Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Waters in California (more commonly referred to as the State Antidegradation Policy), which restricts the degradation of surface waters of the State and protects bodies of water where the existing water quality is higher

than necessary for the protection of present and anticipated designated beneficial uses. The State Antidegradation Policy is implemented by the Los Angeles RWQCB.

California Water Code Section 13260

California Water Code Section 13260 requires that any person discharging or proposing to discharge waste that could affect the quality of the waters of the State, in a location other than the community sewer system, must submit a report of the waste discharge with the applicable RWQCB.

Regional Regulations

Water Quality Control Plan for the Los Angeles Region (Los Angeles Basin Plan)

The Los Angeles Basin Plan establishes beneficial uses for surface and groundwater in the region and sets forth the regulatory water quality standards set by the Los Angeles RWQCB to protect those designated beneficial uses (Los Angeles RWQCB 2019a). Where multiple designated beneficial uses exist, water quality standards must protect the most sensitive use. In cases where the Los Angeles Basin Plan does not contain a water quality objective for a pollutant, other criteria are used to establish a standard. Other criteria may be applied from SWRCB documents (e.g., the Inland Surface Waters Plan and the Pollutant Policy Document) or from water quality criteria developed under CWA Section 304(a). Permits issued to control pollution (i.e., water quality standards) while taking into consideration beneficial uses to be protected. The Los Angeles Basin Plan works to preserve and enhance water quality and protect the beneficial uses of Redondo Beach and Santa Monica Bay (e.g., inland surface waters, groundwater, and coastal waters such as bays and estuaries). Runoff from southern Redondo Beach and West Torrance flow westerly where they are collected by the City of Redondo Beach municipal storm drain system and outlet to the Pacific Ocean. The Los Angeles Basin Plan establishes water quality objectives to prevent harmful pollution from entering these waterbodies.

Construction Dewatering General Permit

The General Permit for Waste Discharge Requirements for Water from Construction and Project Dewatering to Surface Waters (Order No. R4-2013-0095) became effective in the Los Angeles RWQCB jurisdiction in July 2013. The Dewatering Permit authorizes discharges of treated or untreated groundwater generated from permanent or temporary dewatering operations, or other applicable wastewater discharges not specifically covered in other general or individual NPDES permits. Discharges from facilities to Federal waters that could not potentially cause or contribute to a violation of any applicable Federal or State water quality objectives/criteria or cause acute or

chronic toxicity in the receiving water are authorized discharges in accordance with the conditions in the Dewatering Permit. To obtain coverage under this permit, a construction operator must comply with discharge prohibitions and specifications as detailed in the permit language.

Municipal Separate Storm Sewer System NPDES Permit

The CWA established the NPDES program to regulate the discharge of pollutants from point sources to waters of the U.S. However, pollution from non-point sources (i.e., urban runoff) was largely unabated. The USEPA developed the NPDES Storm Water Permitting Program in 1990, which established a framework for regulating municipal and industrial discharges of urban runoff. USEPA required NPDES permit coverage for discharges from MS4 with populations of 100,000 or more. Operators of MS4s regulated under the NPDES Storm Water Permitting Program are required to obtain permit coverage for municipal discharges of stormwater and non-stormwater to waters of the U.S.

Under SWRCB enforcement, the Los Angeles RWQCB implements the NPDES Storm Water Permitting Program in Los Angeles County. Except for those discharges originating from the City of Long Beach MS4, stormwater and non-stormwater discharges from the County of Los Angeles MS4 are regulated under NPDES Permit No. CAS004001 (Final Order No. R4-2012-0175), which went into effect in December 2012. The Los Angeles County MS4 NPDES Permit covers 86 permittees, which include the City of Redondo Beach and the City of Torrance. The provisions of this MS4 NPDES Permit are intended to develop, achieve, and implement a timely, comprehensive, cost-effective stormwater pollution control program to reduce the discharge of pollutants in stormwater to the MS4 from the permitted areas in the County of Los Angeles to the waters of the State. Pursuant to CWA, the MS4 NPDES Permit includes effluent limitations and other provisions to implement the TMDLs for the water bodies that have been classified as impaired on the State's CWA Section 303(d) List. The MS4 NPDES Permit prohibits non-stormwater discharges, except for natural flows, uncontaminated groundwater infiltration, and certain exemptions including landscape irrigation, non-commercial car washing, non-emergency fire-fighting activities, and natural dewatering, provided that conditionally exempt non-stormwater discharges avoid potential sources of pollutants in the flow path to prevent the introduction of pollutants to the MS4 and receiving water.

In 2018, the Los Angeles RWQCB approved the removal of fecal coliform from the monitoring requirements contained in Attachment E of the MS4 NPDES Permit for consistency with Resolution No. R10-005, which removed the water quality objective for fecal coliform in freshwater designated for water contact recreation and limited water contact recreation.

The MS4 Permit sets forth the requirements for all permittees, which are discussed further below:

- **Construction.** For all construction sites that disturb less than 1 acre of soil, permittees must require the implementation of an effective combination of erosion and sediment control BMPs to prevent erosion and sediment loss, and the discharge of construction wastes. For all construction sites 1 acre or more that disturb soil, permittees must require the preparation or submission an Erosion and Sediment Control Plan prior to the disturbance of land. The Project site is approximately 9.78 acres, so the proposed Project is subject to erosion and sediment BMPs. The Erosion and Sediment Control Plan must contain appropriate site-specific construction site BMPs for controlling erosion during excavation and grading activities. Erosion and Sediment Control Plans must include the elements of a SWPPP and must address methods to minimize footprint of disturbed area, methods to protect native vegetation and trees, sediment/erosion control, non-stormwater controls (e.g., vehicle washing, soil watering, dewatering, etc.), materials management (e.g., delivery and storage), spill prevention and control, and waste management (e.g., concrete washout/waste management, sanitary waste management, etc.). SWPPPs prepared in accordance with the requirements of the Construction General Permit can be accepted as Erosion and Sediment Control Plans.
- **Operation.** The NPDES MS4 Permit requires that permittees, including the City of Redondo Beach and the City of Torrance, implement operational stormwater runoff controls for new development and redevelopment projects. Under the NPDES MS4 Permit, these projects must be designed to minimize the footprint of the impervious area and to use low-impact development (LID) strategies to disconnect the runoff from impervious area. Projects must be designed to retain on-site stormwater runoff resulting from either the 0.75-inch per 24-hour storm or the 85th percentile storm as defined in the Los Angeles County 85th percentile, 24-hour storm isohyetal map, whichever is greater. Stormwater runoff may be retained on-site by methods designed to intercept rainwater via infiltration, bioretention, and harvest and use. Examples of LID strategies that may be employed to meet the stormwater retention requirements include rain gardens, bioswales, pervious pavement, green roofs, and rainwater harvesting for use in landscape irrigation.
- **Construction Dewatering General Permit.** The Los Angles RWQCB also regulates discharges of groundwater from construction activities in the coastal watershed of Los Angeles County under Order No. R4-2013-0095 (NPDES Permit No. CAG994004), which was adopted on June 6, 2013. Discharges covered by this permit include, but are not limited to, treated or untreated groundwater generated from permanent or temporary dewatering operations. This permit applies to all construction dewatering activities and includes

effluent and receiving water limitations for metals and other potential contaminants in discharges from dewatering operations, as well as monitoring and reporting requirements. Similar to the Construction General Permit, the construction operator must submit a NOI to discharge groundwater generated from construction dewatering operations in accordance with the requirements of the Construction Dewatering General Permit. The NOI must include such information as the intended reuse or disposal of the wastewater, the nature of wastewater treatment, the discharge point of the wastewater, and the nature of the receiving waters.

Enhanced Watershed Management Program for the Beach Cities EWMP Area

EWMPs are WMPs which comprehensively evaluate opportunities for collaboration on multi-benefit regional projects that retain all non-stormwater runoff and runoff from the 85th percentile, 24-hour storm event while also achieving benefits associated with issues such as flood control and water supply. In general, WMPs and EWMPs are intended to facilitate Permit compliance and water quality target achievement.

Following adoption of the 2012 Los Angeles MS4 NPDES Permit, the cities of Hermosa Beach, Manhattan Beach, Redondo Beach, and Torrance, together with the LACFCD, collectively referred to as the Beach Cities Watershed Management Group (WMG), agreed to collaborate on the development of an EWMP for the Santa Monica Bay and Dominguez Channel areas within their jurisdictions (referred to herein as the Beach Cities EWMP Area). The Machado Lane Subwatershed is not included in the Beach Cities EWMP Area. The EWMP summarizes watershed-specific water quality priorities identified by the Beach Cities WMG, outlines the program plan including specific strategies, control measures, and BMPs to achieve water quality targets, and describes the quantitative analyses completed to support target achievement and Permit compliance (Beach Cities WMG 2018).

Los Angeles County Low Impact Development Standards Manual

The County prepared the 2014 Low Impact Development Standards Manual (LID Manual) to comply with the requirements of the MS4 permit. The LID Manual is an update and compilation of the following documents:

- Development Planning for Storm Water Management: A Manual for the Standard Urban Storm Water Mitigation Plan (September 2002)
- Technical Manual for Stormwater Best Management Practices in the County of Los Angeles (February 2004)
- Stormwater Best Management Practice Design and Maintenance Manual (August 2010)

- Low Impact Development Standards Manual (January 2009)

The LID Manual addresses the following objectives and goals:

- Reduce the adverse impacts of stormwater runoff from development and urban runoff on natural drainage systems, receiving waters, and other water bodies.
- Minimize pollutant loadings from impervious surfaces by requiring development projects to incorporate properly designed, technically appropriate BMPs and other LID strategies.
- Minimize erosion and other hydrologic impacts on all projects located within natural drainage systems that have not been improved by requiring projects to incorporate properly designed, technically appropriate hydromodification control development principles and technologies.

The use of LID BMPs in project planning and design is intended to preserve a site's predevelopment hydrology by minimizing the loss of natural hydrologic processes such as infiltration, evapotranspiration, and runoff detention. LID BMPs try to offset these losses by introducing structural and non-structural design components that restore these water quality functions.

Standard Urban Stormwater Mitigation Plan

The NPDES MS4 Permit defines the minimum required BMPs that must be adopted by the permittee municipalities and included by developers within plans for facility operations. To obtain coverage under this permit, a developer must obtain approval of a project-specific SUSMP from the appropriate permittee municipality.

A SUSMP addresses the discharge of pollutants within stormwater generated following new construction or redevelopment. Under recent regulations adopted by the Los Angles RWQCB, projects are required to implement a SUSMP during the operational life of a project to ensure that stormwater quantity and quality is addressed by incorporating BMPs into project design. This plan defines water quality design standards to ensure that stormwater runoff is managed for water quality concerns and to ensure that pollutants carried by stormwater are confined and not delivered to receiving waters. Applicants are required to abide by source control and treatment control BMPs from the list approved by the Los Angles RWQCB and included in the SUSMP. These measures include infiltration of stormwater as well as filtering runoff before it leaves a site. This can be accomplished through various means, including the use of infiltration pits, flow-through planter boxes, hydrodynamic separators, and catch basin filters.

In combination, these treatment control BMPs must be sufficiently designed and constructed to treat or filter the first 0.75 inches of stormwater runoff from a 24-hour storm event, and post-development peak runoff rates and volumes cannot exceed peak runoff rates and volumes of pre–development conditions. Permittees are required to adopt the requirements set forth herein in their own SUSMP. Additional BMPs may be required by ordinance or code adopted by the permittee and applied in a general way to all projects or on a case-by-case basis.

Los Angeles County Department of Public Works Hydrology Manual

The LACDPW Hydrology Manual establishes county hydrologic design procedures and serves as a reference and training guide. The manual outlines county standards to be used when converting rainfall to runoff flow rates and volumes based on collected historic rainfall and runoff data specific to the County of Los Angeles. The standards set forth in this manual govern all hydrology calculations done under LACDPW jurisdiction. The hydrologic techniques in this manual apply to the design of local storm drains, retention and detention basins, pump stations, and major channel projects. The techniques also apply to storm drain deficiency and flood hazard evaluations.

City of Redondo Beach Local Policies and Regulations

City of Redondo Beach General Plan Utilities Element

The Redondo Beach General Plan Utilities Element contains goals and policies related to hydrology and surface and groundwater quality that apply to the proposed Project. These policies include, but are not limited to:

Policy 6.2.12	Where appropriate and feasible, upgrade the existing drainage system by replacing open swales and drainage channels with covered or underground facilities.
Policy 6.7.3	The City of Redondo Beach Community Development Department and City of Redondo Beach Public Works Department shall, through the local design and environmental review and approval process, ensure that new development proposed in the area of the existing groundwater (seawater) intrusion barrier and water injection well system will not create any adverse impacts or damage to the operation of the system.

Redondo Beach Municipal Code

Redondo Beach Municipal Code (RBMC) Chapter 7 contains the City's Stormwater Management and Discharge Control Ordinance. This Chapter seeks to ensure health and safety of citizens and the water quality of receiving waters of the County of Los Angeles and surrounding coastal areas by:

- Reducing pollutants in stormwater discharges to the maximum extent practicable.
- Regulating illicit connections and illicit discharges and thereby reducing the level of contamination of stormwater and urban runoff into the MS4.
- Regulating non-stormwater discharges to the MS4.
- Protecting and enhancing the quality of watercourses, water bodies, and wetlands in the city in a manner consistent with the federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and the Los Angeles County MS4 NPDES Permit.

RBMC Chapter 5-7 prohibits illicit discharges and connections to the municipal stormwater system, littering, and any discharges in violation of the County of Los Angeles MS4 NPDES Permit. RBMC Section 5-7.113 contains the SUSMP Requirement for New Development and Redevelopment Projects, which regulates urban runoff in Redondo Beach and requires owners and occupants within the City to implement BMPs to prevent or reduce the discharge of pollutants to the municipal stormwater system. RBMC Section 5-7.113 also requires integration of LID practices and standards through means of infiltration, evapotranspiration (i.e., the combined process of water surface evaporation, soil moisture evaporation, and plant transpiration), biofiltration, and rainfall harvest and use be included in the SUSMP. LID BMPs focus on reducing peak runoff by allowing rainwater to soak into the ground, evaporate into the air, or collect in storage receptacles for irrigation or other beneficial uses (City of Redondo Beach 2015). Examples of infiltration BMPs include infiltration basins, dry wells, and pervious pavement.

City of Redondo Beach Local Policies and Regulations

Torrance General Plan Circulation and Infrastructure Element

The Torrance General Plan Circulation and Infrastructure Element contains goals and policies related to circulation and infrastructure, including policies on storm drain systems that apply to the proposed Project. These policies include, but are not limited to:

> Policy CI.9.4 Require that new development assume the full fair-share costs of construction and expansion of water, sewer, and storm drain system improvements necessitated by that development.

Policy CI.9.9 Require that developers address the City's Total Maximum Daily Load as required by a project's watershed.

Torrance General Plan Community Resources Element

The Torrance General Plan Community Resources Element includes water conservation goals and policies related to hydrology and surface and groundwater quality that apply to the proposed Project. These policies include, but are not limited to:

Policy CR.15.3 Maximize the use of local water resources to reduce imported water supplies. Policy CR.15.4: Encourage residents and businesses in Torrance to practice water conservation through incentive programs and where necessary, programs that penalize wasteful practices.

Policy CR.15.5 Enforce regulations aimed at reducing groundwater and urban runoff pollution, including the NPDES requirements of the Regional Water Quality Control Board.

Policy CR.15.6 Reduce the amount of water used for landscaping through such practices as the planting of native and drought-tolerant plants, use of efficient irrigation systems, and collection and recycling of -4runoff.

Policy CR.15.7 Implement the water conservation projects set forth in the City's Urban Water Management Plan.

Policy CR.15.8 Expand the use of recycled water at schools, parks, at City facilities, and other potential irrigation or industrial use sites.

Policy CR.15.9 Identify opportunities for increased use of reclaimed water.

Policy CR.15.10 Promote implementation of effective water conservation and water demand management measures including Best Management Practices.

Torrance Municipal Code

The City of Torrance is one of the co-permittees on the MS4 Permit (Order No. R4-2012-0175). Stormwater quality provisions of the municipal code are set forth in Division 4 Chapter 10, Stormwater and Urban Runoff Pollution Control, and Chapter 11, LID Strategies for Development

and Redevelopment. These municipal code requirements ensure compliance with NDPES and MS4 (City of Torrance 2016a, 2016b).

3.9.3 Impact Assessment and Methodology

Thresholds for Determining Significance

The following thresholds of significance are based on Appendix G of the 2020 California Environmental Quality Act (CEQA) Guidelines. For purposes of this EIR, implementation of the proposed Project may have a significant adverse impact on 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; or
    iv. Impede or redirect flows.
d) The project would be located in a flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation.
e) The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Non-Applicable Threshold(s):

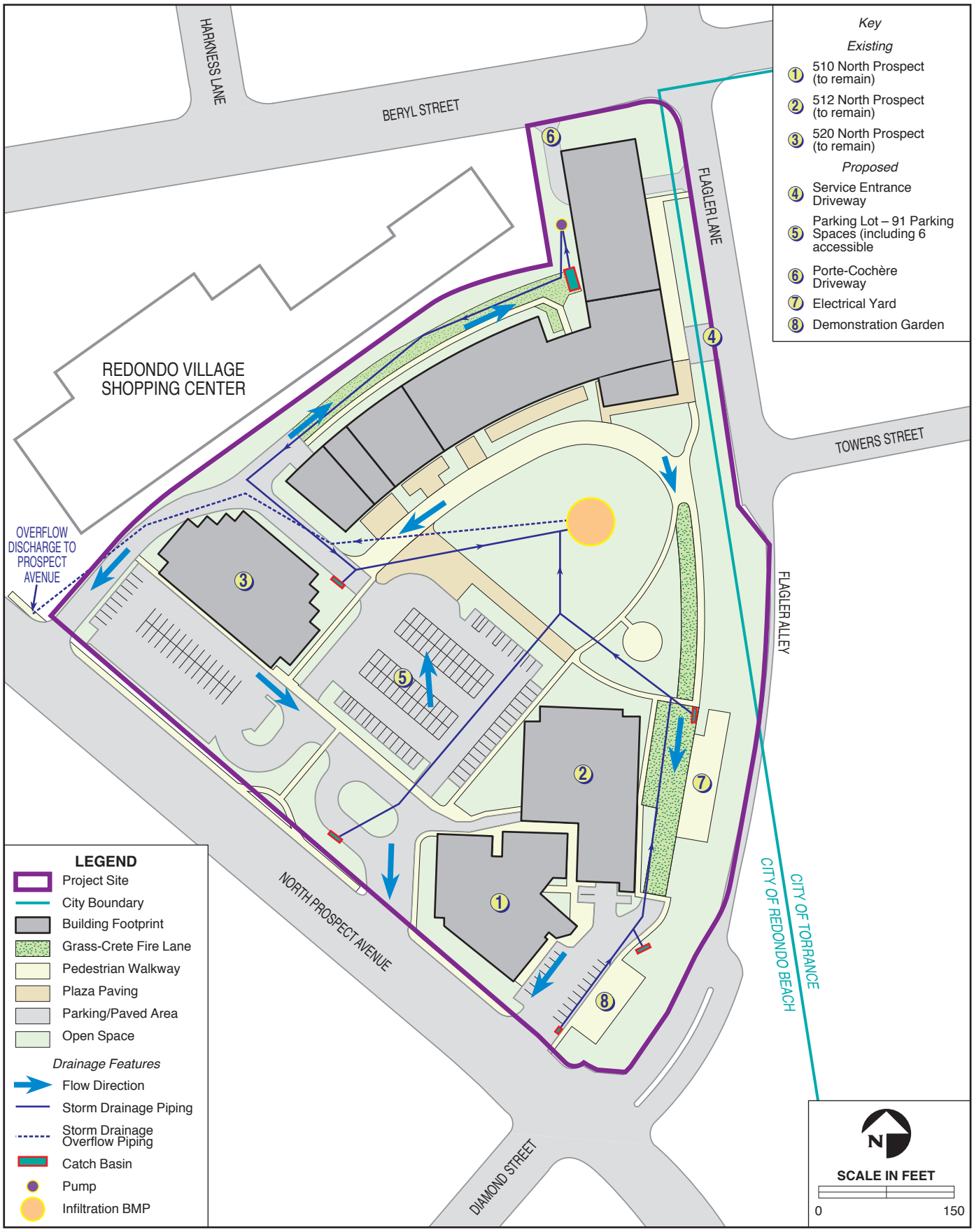
- Threshold (d) (*Flood Hazard, Tsunami, or Seiche Zones*): As described in the Initial Study (IS) (see Appendix A) prepared for the proposed Project, the Project site is located outside of 100-year and 500-year flood zones. According to the FEMA maps, the Project site is in at area within a minimal flood hazard area (FEMA 2020). The proposed Project would similarly not place any other structures within a 100-year flood hazard area that would

impede or redirect flood flows. Additionally, there are no dams, levees, streams, or rivers, in proximity of the Project site. Therefore, the proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam and no impact would occur. The Project site is located over 1 mile inland of the Pacific Ocean and is located within a mapped Tsunami Inundation Area (California Department of Conservation 2009). Therefore, the proposed Project would not be affected by or release of pollutants as a result of inundation. Therefore, for the reasons stated above and as discussed in Section X, *Hydrology and Water Quality* of the IS, this issue is not further analyzed in the EIR.

Methodology

The proposed Project was evaluated for hydrologic risks, including potential impacts to surface and groundwater quality, flooding, or groundwater basin capacity based on information from the 2015 Urban Water Management Plan (UWMP), Redondo Beach General Plan Utilities Element, the Torrance General Plan Circulation and Infrastructure Element and Community Resources Element, and the RMBC and TMC. Project-specific information was provided by the Hydrology and Water Quality Report (John Labib & Associates 2021) and geotechnical study prepared for the proposed Project (Converse Consultants 2016).

Potential impacts to the storm drain system were analyzed by comparing the calculated existing and proposed peak runoff rates, taking into consideration the capacity of the existing storm drain system serving the Project site and mandatory compliance with applicable State and local regulations addressing stormwater runoff. Components of the proposed Project that would have the benefit of reducing stormwater runoff and conserving water on-site using LID and outdoor water conservation techniques have been considered. The analysis also takes into consideration mandatory compliance with applicable State and local regulations addressing stormwater runoff and water quality.



wood.

Phase 1 Site Drainage

FIGURE 3.9-3

3.9.4 Project Impacts and Mitigation Measures

Impact Description (HYD-1)

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

HYD-1 Neither construction nor operation of the proposed Project – including the Phase 1 preliminary site development plan and the more general Phase 2 development program – would result in a violation of water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality. The proposed Project would comply with existing regulations and plans to ensure the potential impacts to water quality would be *less than significant.*

Construction

Construction of the proposed Project would involve major earthwork, including demolition of existing pavements and structures, excavation and shoring for subterranean levels, grading, and trenching for utilities, which would disturb the underlying soils and expose them to potential erosion and mobilization from wind, rain, and on-site watering activities, necessary to reduce airborne dust (refer to Section 3.6, *Geology and Soils*). These activities could result in sediment transport into adjacent storm drain inlets – particularly during storm events or during on-site watering. Additionally, construction activities have the potential to contribute to polluted stormwater runoff due to the delivery, handling, and storage of construction materials and wastes, as well as potential leakage and spills of construction materials (e.g., oil, grease, paints, solvents, or cleaning agents) (refer to Section 3.8, *Hazards and Hazardous Materials*). During storm events, these contaminants on the Project site have the potential to be washed away by stormwater runoff and carried into the existing storm drain system.

Construction of the proposed subterranean service area and loading dock during Phase 1 would involve the excavation and export of approximately 20,000 cubic yards (cy) of soil (refer to Section 2.5.1, *Phase 1 Preliminary Site Development Plan*). Phase 2 of construction would involve the excavation and export of an estimated 11,000 cy of soil associated with construction of the above ground parking structure (refer to Section 2.5.2, *Phase 2 Development Program*). Winter storms and rainfall events that occur during these construction periods – which would span multiple winter seasons – would generate runoff that could flow of over exposed soil areas and carry suspended sediments and other pollutants into the stormwater drainage system leading to the Pacific Ocean. Due to the substantial amount of proposed excavation and the potential for extended periods of

exposed soils, soil erosion could result in the creation of on-site rills and gullies, clogs in the existing drainage system, and transport of suspended sediments into down-gradient areas of the Project site. This stormwater runoff could also contain eroded construction and demolition debris and associated hazardous materials that would potentially further degrade surface water quality in the vicinity of the Project site, including the Santa Monica Bay. Potential pollutant sources resulting from conditions or areas at the Project site that could cause sediment, silt, and/or turbidity in site runoff include, but are not limited to:

- Exposed soil areas with inadequate erosion control measures;
- Areas of active grading;
- Poorly stabilized slopes;
- Lack of perimeter sediment controls;
- Areas of concentrated flow on unprotected soils;
- Poorly maintained erosion and sediment control measures;
- Tracking sediment onto roads and paved surfaces;
- Unprotected soil stockpiles; and
- Failure of an erosion or sediment control measure.

Potential adverse effects on water quality associated with construction activities would be reduced through compliance with the requirements of the Construction General Permit (SWRCB Order No. 2009-0006-Data Quality Assessment). Prior to beginning any demolition, grading, or construction activities, BCHD must obtain coverage under the General Construction Permit by preparing and submitting a NOI and SWPPP for review and approval by the Los Angeles RWQCB. In accordance with the Stormwater Management and Discharge Control Ordinance, the BMPs developed for the proposed Project would also be incorporated into a SUSMP to be approved by the Redondo Beach DPW Engineering Services Division and Torrance Public Works prior to the initiation of construction-related activities. The SUSMP would require that BMPs minimize pollutants and reduce stormwater runoff to levels that comply with applicable water quality standards. The following urban runoff reduction requirements are required to be implemented during construction, consistent with the Los Angeles County MS4 NPDES Permit:

- **Erosion Control or Soil Stabilization BMPs** cover and/or bind soil particles to prevent them from detaching and becoming transported in stormwater runoff, including hydraulic mulch, geotextiles and mats, dikes, and drainage swales to direct runoff and avoid sheet flow, velocity dissipation devices at outlets, slope drains, soil preparation/roughening to break up sheet flow, and non-vegetative stabilization (e.g., decomposed granite, gravel mulch, etc.). For example, plastic covering would be utilized to prevent erosion of an

otherwise unprotected area (e.g., exposed or open to elements stockpiles). These erosion control measures would be implemented throughout the Project site and would be installed well in advance of any storm events.

- **Sediment Control BMPs** are structural measures that would intercept and filter out soil particles that have been detached and transported by water to reduce sediment discharges from construction areas, including silt fencing, sediment traps, check dams, fiber rolls, gravel bag berms, and sandbag barriers. These structural controls would be placed along the perimeter of the Project site along downhill boundaries where runoff is discharged, below the toe or down slope of erodible slopes, at storm drain inlets, along exposed slopes or temporary stockpiles, at culvert/pipe outlets, in channels/ditches/swales, parallel to roadways, or along mildly sloping construction roads. Another sediment control BMP that would be implemented to prevent sediment from entering storm drains and receiving waters would be street sweeping/vacuuming, particularly at points of egress prior to a precipitation event. In addition, vehicle tracking BMPs such as a rock pad, shaker rack, wheel washer, or other BMPs designed to remove soil and mud from vehicles and further reduce offsite tracking of sediment.
- **Wind Erosion Control BMPs** would prevent the transport of soil from disturbed areas of the Project site, off-site by wind and dry conditions during construction. Dust control measures would include construction watering to stabilize soil from wind erosion associated with construction vehicle traffic on unpaved roads, drilling and blasting activities, soil and debris storage, batch drops from front-end loaders, unstabilized soil, and grading. In addition, wind screen fencing would be installed along the perimeter of the Project site.
- **Non-Stormwater and Materials Management BMPs** would reduce or eliminate non-stormwater discharges from the Project site, including implementation of water conservation practices, compliance with applicable Los Angeles RWQCB and local agency dewatering permits (Order No. R4-2013-0095) for any accumulated precipitation allowed to enter the storm drain system, proper inspection and notification of any illicit connections and discharges off-site. These would also include implementation of proper operation, storage, training, and disposal techniques associated with paving and grinding, vehicle maintenance, concrete, irrigation, and waste management operations. For example, machinery or equipment that is to be repaired or maintained in areas susceptible to or exposed to stormwater, would be placed in a manner so that leaks, spills, and other maintenance-related pollutants are not discharged to the municipal storm drain system. Any trash, debris, free standing oil/grease, spills/leaks, shall be removed prior to sidewalk or street washing. No wash water from any type of equipment, vehicle, or machinery shall

be allowed to leave the Project site. Any washing of equipment in the right-of-way shall be contained and properly disposed of. Additionally, parking lots located in areas potentially exposed to stormwater would be swept regularly or other equally effective measures would be utilized to remove debris from such parking lots.

Implementation of BMPs developed in accordance with the requirements of the Construction General Permit would prevent violation of water quality standards and minimize the potential for contributing polluted runoff during construction of the proposed Project. Therefore, construction-related impacts to water quality would be *less than significant.*

Operation

The proposed Project would redevelop the existing BCHD campus and adjacent vacant Flagler Lot. The proposed land cover and impervious surface types would be relatively similar to those currently on the Project site (e.g., rooftops, roadways, driveways, pedestrian walkways, etc.). However, the proposed Project would redevelop the BCHD campus with greater active green space, landscaping, and grass-crete, which is a semi-permeable surface (refer to Figure 2-10). As a result, Phase 1 of the proposed Project, including construction of the proposed Residential Care for the Elderly (RCFE) Building, the demolition of the existing Beach Cities Health Center and the attached maintenance building, and the development of open space and a landscaped surface parking lot, would create a net reduction in the total amount impervious surface area from 81.7 percent to 57 percent during Phase 1 (see Table 3.9-4; John Labib & Associates 2021; see Appendix H).

Table 3.9-4. Areas of Pervious and Impervious Surfaces on Project Site Following the Implementation of Phase 1

	Total Area (sf)	Pervious Area (sf)	Impervious Area (sf)	Impervious Area (%)
Existing	452,174	82,541	369,633	81.7
Total after Phase 1	452,174	194,426	257,748	57.0

Note: Calculations are provided in Appendix B of the Hydrology and Water Quality Report (see Appendix H).
Source: John Labib & Associates 2021; see Appendix H.

The Phase 2 development program would increase the area of impervious surfaces due to the development of additional building footprints. For example, under the Example A site plan scenario, the total impervious surface area would be increased from approximately 57 under Phase 1 to 65 percent under Phase 2 (John Labib & Associates 2021; see Appendix H).

The overall net reduction in impervious surface areas associated with the proposed Project compared to existing conditions would reduce the potential for pollutants (e.g., leaking oil, gas,

grease, metals, organics, pesticides, and non-chemical pollutants such as trash, debris, and bacteria) to be discharged during storm events. Pervious surface areas would increase slightly with the addition of open space and landscaping that would retain stormwater on the Project site for longer periods (e.g., the central lawn, ornamental landscaping on the ground-level open space, landscaped planters on the podium deck of the proposed RCFE Building, the Demonstration Garden, etc.). Additionally, as further described in Impact HYD-3, Phase 1 of the proposed Project would involve the construction of an infiltration 85th system designed to retain, treat, and infiltrate the 85th percentile storm, which can be expected to result in 0.30 to 1.50 inches of rainfall, into the groundwater. (Again, the 85th percentile storm is used to represent the approximate amount of rainfall that would occur from 85 percent of storms occurring in the Los Angeles RWQCB region.) Any flows larger than the 85th percentile design storm would be conveyed to North Prospect Avenue and the existing storm drain infrastructure discharging to the storm drain line beneath Flagler Lane would be abandoned in place.

The proposed Project would be subject to Federal, State, and local regulations pertaining to operational water quality. For instance, the proposed Project is subject to the Redondo Beach Stormwater Management and Discharge Control Ordinance (City of Redondo Beach 2015). Therefore, BCHD would be required to prepare and implement a SUSMP through the operational life of the proposed Project. Long-term operational requirements in the SUSMP would include one or more of the following to mitigate stormwater runoff:

- Control pollutants, pollutant loads, and runoff volume emanating from the Project site by minimizing the impervious surface area and controlling runoff from impervious surfaces through infiltration, bioretention and/or rainfall harvest and use. The proposed Project would retain the Stormwater Quality Design Volume on-site, defined as the runoff from the 0.75-inch, 24-hour rain event or the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map, whichever is greater.
- Bioretention and biofiltration systems shall meet the design specifications provided in Attachment H of the MS4 NPDES Permit unless otherwise approved by the Los Angeles RWQCB Executive Officer.
- When evaluating the potential for on-site retention, the maximum potential for evapotranspiration from green roofs and rainfall harvest and use shall be considered.

Prior to issuing approval for final occupancy, BCHD would be required to provide an operation and maintenance plan, monitoring plan, where required by the Los Angeles Basin Plan, and verification of ongoing maintenance provisions for LID practices, Treatment Control BMPs, and

Hydromodification Control BMPs including but not limited to: final map conditions, legal agreements, covenants, conditions or restrictions, and/or other legally binding maintenance agreements. Verification at a minimum shall include a BCHD-signed statement accepting responsibility for maintenance until the responsibility is legally transferred.

Therefore, following completion of the proposed Project, stormwater runoff from the Project site would not directly affect water quality in the Santa Monica Bay or local groundwater. Compliance with all applicable State and local regulations would ensure that operational impacts to water quality would be *less than significant.*

Impact Description (HYD-2)

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

HYD-2 Construction and operation of the proposed Project – including the Phase 1 preliminary site development plan and the Phase 2 development program – would not require dewatering activities or otherwise substantially deplete groundwater supplies. The proposed Project would increase groundwater recharge by increasing pervious surface area and improving the existing infiltration system; therefore, there would be a minor *beneficial* impact.

Construction

Based on the findings of the subsurface soil investigation conducted at the Project site, the depth to groundwater at the Project site is more than 61.5 feet below ground surface (bgs) (refer to Section 3.6, *Geology and Soils*; see Appendix F). The proposed Project would include excavation to a maximum depth of 26 feet bgs for the subterranean service area and loading dock of the proposed RCFE Building during Phase 1. Additional excavation also would be required the subterranean levels of the proposed parking structure and the service areas associated with the development under Phase 2. However, dewatering activities would not be necessary, as the maximum excavation depth will not reach groundwater level. Therefore, Construction Dewatering General Permit would not be required.

Due to the existing paved nature of the Project site and lack of stormwater infiltration infrastructure, surface water is not able to naturally infiltrate through the soils and existing groundwater recharge is negligible. Construction activities would temporarily increase the area of

exposed soils; however, the overall change to soil permeability and recharge of the Basin would be nominal.

Construction activities would not substantially deplete groundwater supplies or affect groundwater recharge; therefore, construction impacts to groundwater levels would be *less than significant.*

Operation

The proposed Project would improve groundwater recharge by reducing the volume of runoff and improving infiltration at the Project site. The proposed redevelopment of the BCHD campus would decrease the existing impervious area by adding additional landscape areas, permeable paving pathways, and removing the existing large footprint of impervious surface parking lots. Currently, approximately 369,633 sf, or 81.7 percent, of the Project site is covered in impervious surface area (John Labib & Associates 2021). As described in Impact HYD-1, the implementation of the proposed Project would substantially reduce the area of impervious surface compared to existing conditions (John Labib & Associates 2021). The proposed Project would also create a new drainage system capable including the construction of an infiltration system (i.e., drywell or infiltration trench) capable of retaining, treating, and infiltrating the 85th percentile stormwater flows on-site. Consequently, implementation of the proposed Project would improve groundwater recharge at the Project site and there would be a minor *beneficial* impact to groundwater as a result of the proposed Project.

Impact Description (HYD-3)

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; or

iv. Impede or redirect flows.

HYD-3 The proposed Project would involve the construction of an on-site infiltration system to facilitate groundwater recharge and eliminate stormwater drainage to the City of Torrance municipal storm drain system by abandoning the existing infrastructure that discharges to Flagler Lane in place. Additionally,

the proposed Project – including the Phase 1 preliminary development plan and the more general Phase 2 development program – would not contribute additional runoff to the City of Redondo Beach municipal storm drain system that would exceed existing capacity or increase sources of polluted runoff. The proposed Project would comply with existing regulations and plans to ensure the potential impacts related to drainage would be *less than significant*.

Construction

Construction of the proposed Project would involve site preparation activities, including demolition, excavation, grading, and trenching within areas that are currently developed with impervious surfaces. Generally, all construction activities – particularly those involving substantial soil excavation – would result in exposure of soils and would cause minor alterations to on-site drainage, including the potential for temporary ponding during storm events (refer to Impact HYD-1). However, all stormwater generated during construction would continue to be directed to the existing storm drain system. As discussed in Impact HYD-1, all elements of the proposed Project would be required to implement BMPs to address soil erosion, including topsoil mobilization and loss, and urban runoff, such that substantial erosion or siltation would not occur. Construction activities would alter drainage on-site during each phase of construction, subject to requirements to control water quality and stormwater flows, but would not alter drainage patterns off-site to the existing storm drain system; therefore, construction activities associated with the proposed Project would result in a *less than significant* impact.

Excavation and grading during construction activities would disturb and loosen soils, increasing the potential for soil erosion from wind and rain. For example, substantial ground disturbance under the proposed Project would include the removal of trees and shrubs (e.g., along the eastern perimeter of the campus), installation of the building foundations and footings, deep excavation of soils for subterranean development, and installation of new landscaping. Installation of new utility connections (e.g., water, sewer, and storm drain lines) would also disturb soil up to a depth of approximately 3 feet bgs (see Section 3.15, *Utilities and Service Systems*). Ground disturbance resulting from construction of the subterranean service area and loading dock during Phase 1 and the subterranean levels of the parking structure and service areas during Phase 2 would extend up to approximately 26 feet deep. Implementation of the proposed Project components would result in exposure of large areas of soils during earth work.

However, as described in Impact HYD-1, during construction a SWPPP, SUSMP, and associated BMPs would be implemented in accordance with applicable Los Angles RWQCB, City of Redondo Beach, and City of Torrance regulations to provide for temporary stormwater

management and prevent construction activities from adversely affecting the amount or direction of flow of surface water. The SWPPP defines site-design, source-control, and treatment-control BMPs would address the potential polluted runoff and surface water quality impacts would be *less than significant*.

Operation

Implementation of the proposed Project would result in impervious surfaces that are relatively similar in type to those currently on the Project site (e.g., rooftops, roadways, driveways, pedestrian walkways, etc.). However, as described under Impact HYD-1, the proposed Project – including the Phase 1 preliminary site development plan and the Phase 2 development program – would result in a net reduction in the total amount impervious surface area in comparison to existing conditions (John Labib & Associates 2021).

John Labib & Associates used the Los Angeles County HydroCalc Calculator to determine the existing proposed peak runoff rates at the Project site during the 10-, 50-, and 100-year storm events (see Appendix H). A summary of existing and post-construction peak flows at the Project site is provided in Table 3.9-5.

Table 3.9-5. Peak Flow Rates on Project Site Following the Implementation of Phase 1

Clear Peak Flow Rates (cfs)					
	85th Percentile	**10-year**	**50-year**	**100-year**	**100-year (% Increase)**
Existing	1.4	12.0	20.0	24.1	-
Phase 1	0.9	8.8	16.3	20.0	-17.0%

Note: Calculations are provided in Appendix B of the Hydrology and Water Quality Report (see Appendix H).
Source: John Labib & Associates 2021; see Appendix H.

The Phase 2 development program would increase the area of impervious surfaces due to the development of additional building footprints. Therefore, the peak flow rates would increase slightly, but still remain less than those described for existing conditions. For example, under the Example A site plan scenario, the total reduction in the 100-year flow would be -13.5 percent as compared to the total reduction of 17.0 percent under Phase 1 (John Labib & Associates 2021; see Appendix H).

Under the proposed Project the existing catch basin and 18-inch storm drain line that outlets to the City of Torrance municipal storm drain system would be abandoned in place. The proposed Project would involve the construction of a new storm drain system on-site including the construction of an infiltration system (i.e., drywell or infiltration trench) capable of retaining, treating, and infiltrating the 85th percentile storm water flows on-site. The percolation tests performed in 2016

by Converse Consultants showed in-situ infiltration rates in the range of 3 to 4 inches per hour which exceeds LACDPW's minimum infiltration rate of 0.3 inches/hour (John Labib & Associates 2021; see Appendix H). Any flows larger than the design storm would be conveyed to North Prospect Avenue, where they would be conveyed through the curb and gutter to the nearest catch basin maintained by the City of Redondo Beach. However, the peak flow rate and total volume of discharge to the City of Redondo Beach municipal storm drain system would be much less than existing conditions. These facilities have excess capacity and would continue to adequately serve the Project site with the implementation of the proposed Project (John Labib & Associates 2021; see Appendix H). Therefore, the proposed Project would result in a reduction in runoff from the site compared to existing conditions, and therefore would have a *less than significant* impact on drainage capacity in the vicinity of the Project site.

Impact Description (HYD-4)

d) The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

HYD-4 The proposed Project – including the Phase 1 preliminary site development plan and the more general Phase 2 development program – would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan – including the Ocean Plan, Los Angeles Basin Plan, Groundwater Basin Master Plan (GBMP), and the California Water Service Company (Cal Water) Urban Water Management Plan (UWMP). Therefore, impacts would be *less than significant*.

As previously described, two water quality control plans are applicable to the Santa Monica Bay WMA, which encompasses the Project site: the Ocean Plan and the Los Angeles Basin Plan. For coastal sites, the Ocean Plan includes water quality objectives for the protection of oceanic water quality. Under the Los Angeles Basin Plan, urban runoff must meet guidelines set by the Los Angeles RWQCB to retain the beneficial use of the receiving water bodies. The Los Angeles Basin Plan works to preserve and enhance water quality and protect the beneficial uses of Santa Monica Bay and Redondo Beach (e.g., preservation of biological habitats, navigation, and migration of aquatic organisms). As described in Impact HYD-1, the proposed Project would be required to comply with the requirements of the Construction General Permit (SWRCB Order No. 2009-0006-Data Quality Assessment) to protect associated inland and coastal water quality. The proposed Project would also implement BMPs, such as sediment and erosion controls, to prevent polluted discharge or runoff that would adversely affect water quality. Therefore, through compliance with

the NPDES program, the proposed Project would be consistent with these applicable water quality control plans and impacts would be *less than significant.*

The proposed Project would not conflict with or obstruct the implementation of sustainable groundwater management plan. As described in Section 3.15, *Utilities and Service Systems*, the Groundwater Basin Master Plan (GBMP) provides guidance for parties operating in the West Coast and Central groundwater basins to support additional recharge and pumping from these basins in order to utilize the basins fully and reduce dependence on imported water. The proposed Project would support objectives of the GBMP by increasing the area of pervious surfaces and facilitating groundwater recharge through infiltration on the Project site.

Additionally, as described further in Section 3.15, *Utilities and Service Systems*, Cal Water's UWMP outlines Hermosa-Redondo District's historical and projected water demands, water supplies, supply reliability and vulnerabilities, water shortage contingency planning, and demand management programs to meet the service area's demands (Cal Water 2016). As discussed in Impact UT-2, implementation of the proposed Project would not increase water demand to a level beyond what can be adequately met by existing and future water supplies as determined by existing plans. The proposed Project would not conflict with implementation of any water quality control plans or sustainable groundwater management plans (i.e., the Ocean Plan, Los Angeles Basin Plan, Groundwater Master Plan, and 2015 UWMP). Therefore, the impact of the proposed Project on sustainable groundwater management would be *less than significant*.

Cumulative Impacts

Cumulative development within the vicinity of the Project site would have the potential to contribute to increased pollutant loading in urban runoff and changes in localized drainage patterns. Many pending and future projects in Redondo Beach and Torrance involve redevelopment of existing paved areas, which would not result in a substantial change in surface runoff or groundwater infiltration in the cities because existing development is characterized mostly by paved, impervious surfaces. potential impacts related to stormwater runoff would be regulated across the cities in the same manner as they would be for the proposed Project. New development and redevelopment projects within the cities would be required to comply with the Los Angeles County NPDES permit discharge requirements and respective municipal codes to prevent and mitigate potential impacts to water quality from polluted stormwater runoff. Additionally, each approved project in the vicinity of the Project site would be required to implement BMPs to capture stormwater runoff on-site to the maximum extent feasible and reduce pollutants that are discharged to any stormwater runoff that flows off-site, consistent with the local

regulations in effect in each city. Compliance with existing Federal, State, and local regulations would prevent violation of water quality standards and minimize increases in urban runoff and the potential for contributing additional sources of polluted runoff. Additionally, new development and redevelopment projects in the cities that incorporate current BMP requirements could result in improved water quality as compared to existing conditions. Therefore, the proposed Project *would not substantially contribute to cumulatively considerable impacts* on surface water hydrology and surface water quality.