SECTION 3.6
HYDROLOGY AND WATER QUALITY

3.6 HYDROLOGY AND WATER QUALITY

3.6.1 INTRODUCTION

This section analyzes the potential impacts of the Proposed Project on hydrology and water quality, and is based on the *Hydrology and Water Quality Technical Report* prepared by DUDEK (May 2009). The technical report is included in its entirety in **Appendix 3.6** of this EIR.

3.6.2 METHODOLOGY

Data regarding hydrology and water quality at the Project site was obtained through a review of pertinent literature, proposed site plans, and Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Maps ("FIRMs").

With respect to hydrology, the data was evaluated to identify existing drainage basins and flow characteristics. In addition, the San Diego County Water Authority's San Diego County Hydrology Manual (2003) was used to determine peak flows. Surface water and groundwater information also was obtained from the Hydrology Manual.

With respect to water quality, the City of San Diego's Storm Water Standards Manual ("SWS Manual"; see the San Diego Municipal Land Development Code) and the county-wide Model Standard Urban Stormwater Mitigation Plan ("SUSMP") Requirements for Development Applications were utilized to develop permanent and construction stormwater quality Best Management Practice ("BMP") recommendations. In addition, water quality information for the Project site was obtained through review of the San Diego Regional Water Quality Control Board's ("SDRWQCB") 2006 List of Water Quality Limited Segments, 1994 Water Quality Control Plan for the San Diego Basin, and 2007 National Pollutant Discharge Elimination System ("NPDES") Municipal Permits (see SDRWQCB Order No.R9-2007-0001, NPDES No. CAS0108758). In 2007, the SDRWQCB approved Total Maximum Daily Loads ("TMDLs") for Indicator Bacteria Project I – Beaches and Creeks in the San Diego Region (Resolution No. R9-2007-0044), which also were used to assess potential impacts to the downstream impaired waterbodies. Soils information for the SDSU campus and Project area was obtained from Southland Geotechnical Consultants and Golder Associates, Inc.

The aquifer characteristics, stream flow, and channel characteristics used in undertaking this analysis were defined by other professionals, and such data was interpreted by DUDEK.

3.6.3 EXISTING CONDITIONS

The Project site is located within Sections 15 and 22 in Range 2 West, Township 16 South of the San Bernardino Base and Meridian, U.S. Geological Survey ("USGS") 7.5 minute series La Mesa, California Quadrangle. The site is located atop a mesa terrace intersected by canyon drainages on the north, east, and west sides, which drain into the San Diego River system. The surrounding area includes coastal plains, flanked by foothills and mountains.

The climate of San Diego County is characterized by warm, dry summers and mild, wet winters. The average rainfall is approximately 10–13 inches per year, most of which falls between November and March. The average mean temperature for the area is approximately 65° F in the coastal zone and 57° F in the surrounding foothills.

3.6.3.1 Site Topography

The elevation of the Project site varies between 440 and 460 feet above mean sea level ("amsl"). The portion of the Project development site along the east and west sides of College Avenue is at an elevation of approximately 440 feet amsl, while the portion located west of Campanile Drive is at an elevation of approximately 460 feet amsl.

3.6.3.2 Site Soil Types

The surficial soil type at the Project site is classified by the U.S. Department of Agriculture Soil Survey as Redding-Urban land complex, 2 to 9 percent slopes. Review of geotechnical analyses indicates that the Proposed Project is underlain by various deposits consisting of artificial fills, Stadium Conglomerate, Linda Vista Formation, and Mission Valley Formation. DUDEK has classified the surficial soil at the site as Group D, based on the surrounding land use. (Soils are classified by the Natural Resources Conservation Service ("NRCS") into four Hydrologic Soil Groups based on the soil's runoff potential: Groups A, B, C, and D. Group A generally has the smallest runoff potential, and Group D has the greatest runoff potential.) [1]

3.6.3.3 Surface Water

As depicted in **Figure 3.6-1, San Diego Watershed Map**, the Project site is located within the San Diego Watershed (or hydrologic unit ["HU"]), which encompasses approximately 440

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[1] Coverage by the County of San Diego Hydrology Manual's Hydrologic Soil Groups Map for the Project site is unavailable.

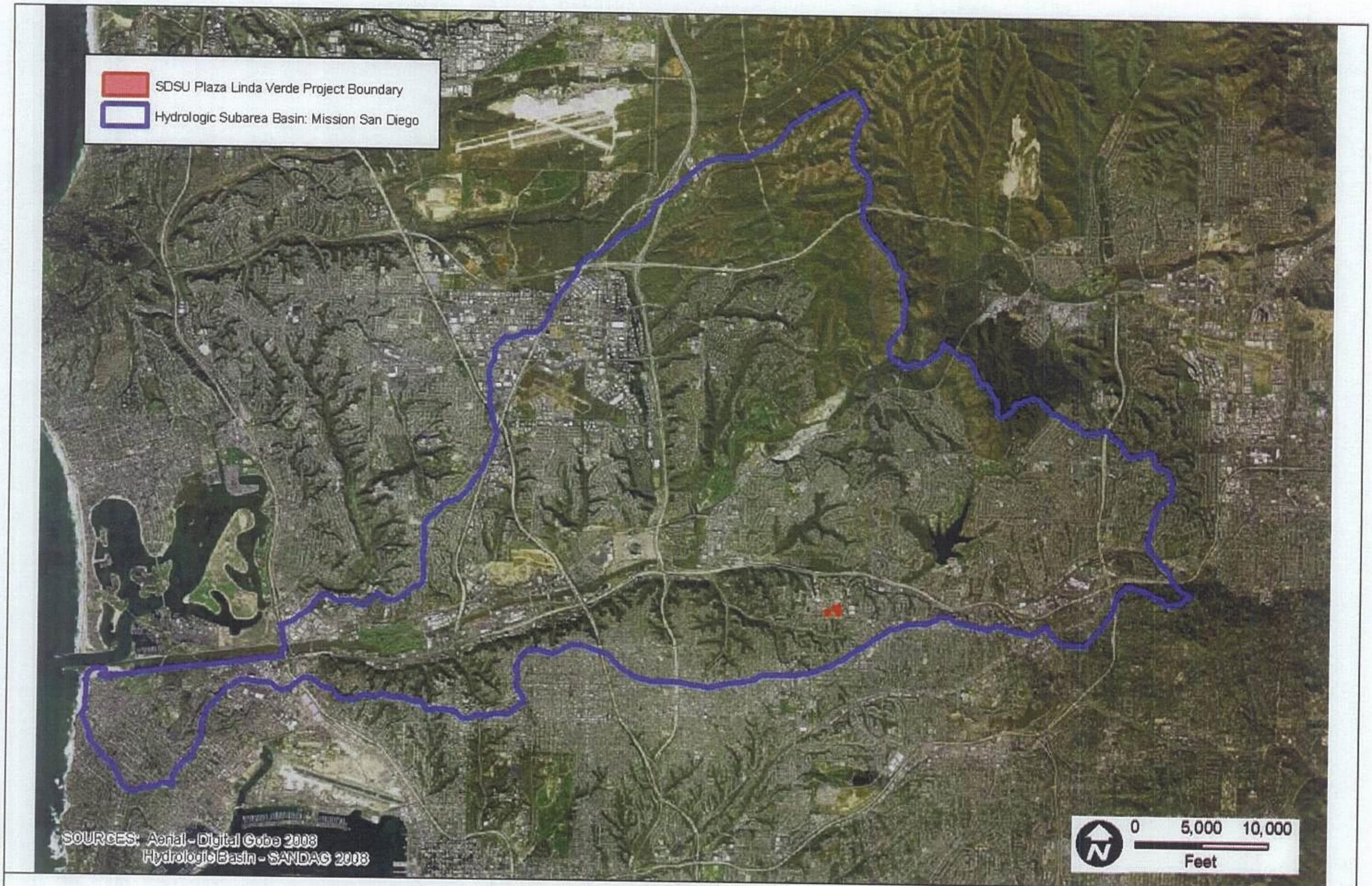

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Figure 3.6-1

San Diego Watershed Map

square miles and is the second largest HU in San Diego County. The watershed has the highest population of San Diego County's watersheds and contains portions of the cities of San Diego, El Cajon, La Mesa, Poway, Santee, and several unincorporated jurisdictions. The San Diego HU includes five water storage reservoirs, a groundwater aquifer, riparian and wetland habitats, and tidepools. Approximately 58.4 percent of the watershed consists of undeveloped land, mostly in the upper eastern portion of the watershed, while the remaining lower portions consist of residential, roads, freeways, and commercial land uses.

The San Diego HU is divided into four hydrologic areas ("HAs"): Lower San Diego, San Vicente, El Capitan, and Boulder Creek. The Project site is located within the Lower San Diego HA (907.10). The Lower San Diego HA is subdivided into five, additional hydrologic subareas ("HSAs") – the Project site is within the Mission San Diego HSA (907.11).

The Lake Murray reservoir, located in the San Diego River system, is the nearest of the five reservoirs in the watershed. The reservoir is located approximately 1.75 miles northeast of the Project site, and would not be affected by runoff from the Project site. An intermittent stream runs along the bottom of Alvarado Canyon approximately 0.5 mile north of the Project site. Surface runoff from the Project site would enter the Municipal Separate Storm Sewer System ("MS4") along College Avenue, Lindo Paseo, and Montezuma Road and discharge to the San Diego River via Alvarado Canyon or other unnamed tributaries.

3.6.3.4 Groundwater

A groundwater basin is defined as a hydrogeologic unit containing one large aquifer and several connected and interrelated aquifers. All major watersheds in the San Diego region contain groundwater basins. However, the Project site is in an area designated as being outside of a groundwater basin, as defined by the San Diego County Water Authority ("SDCWA") footprint, and is approximately 0.75 mile south of the 6.28-square-mile Mission Valley Groundwater Basin. (See **Figure 3.6-2, Mission Valley Groundwater Basin Map.**) Drained by the San Diego River, the Mission Valley Groundwater Basin underlies an east–west trending valley and is bound by the lower permeability of the San Diego, Poway, and Linda Vista Formations. The principal water-bearing deposit in the aquifer is alluvium, consisting of medium to coarse-grained sand and gravel. This alluvium has an average thickness of 80 feet and a maximum thickness of about 100 feet. Attributes of the Mission Valley Groundwater Aquifer are summarized in **Table 3.6-1, Mission Valley Groundwater Aquifer**.

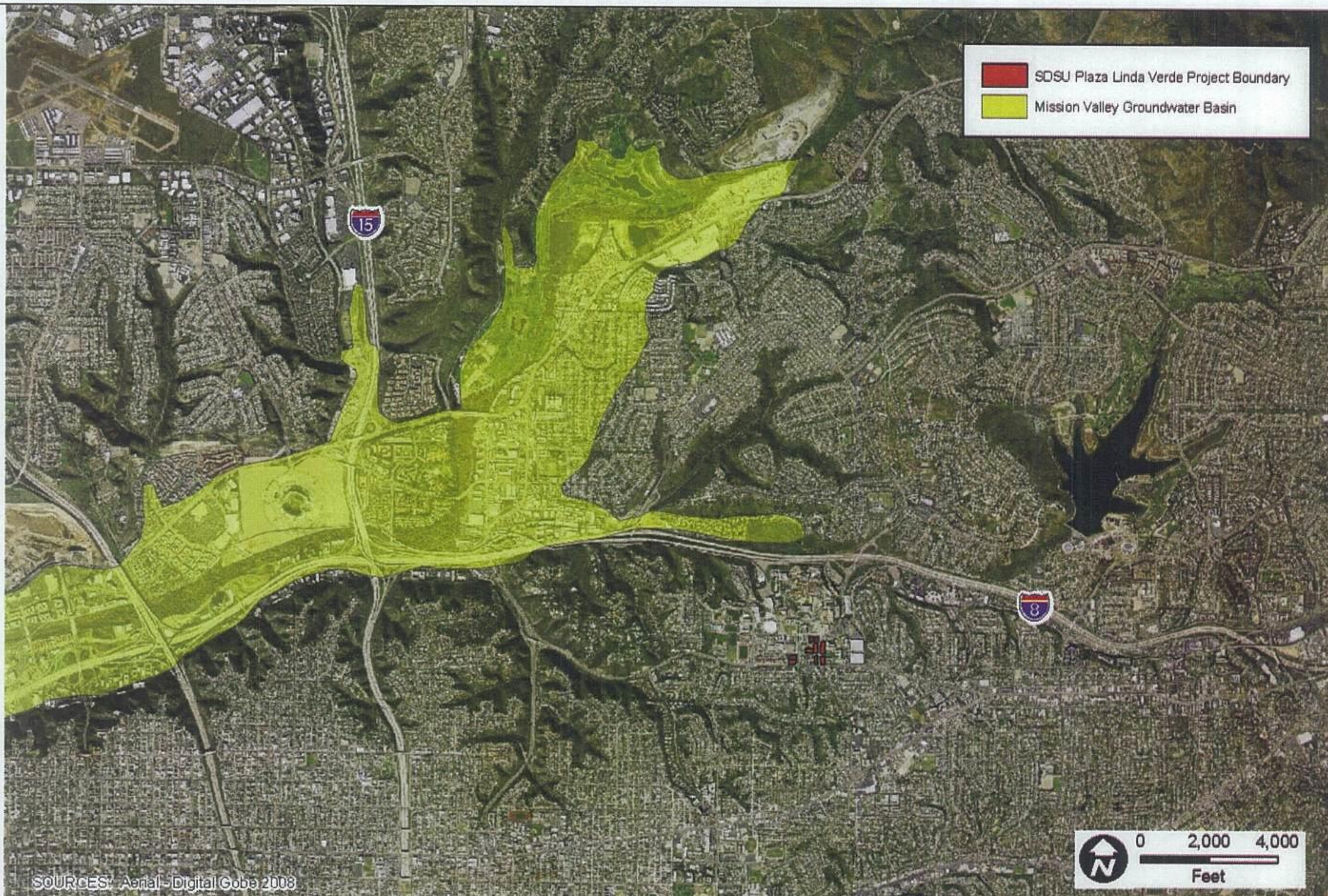

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Figure 3.6-2

Mission Valley Groundwater Basin Map

Table 3.6-1
Mission Valley Groundwater Aquifer

Aquifer	Description	Thickness
Shallow Alluvium	Quaternary age medium to coarse-grained sand and gravel	Approximately 80–100 feet
San Diego Formation	Thick accumulation of older, semi-consolidated alluvial sediments	Generally less than 100 feet[1]

1 The San Diego Formation thickens westward across the Rose Canyon fault system, reaching a maximum thickness of about 1,000 feet (Huntley et al., 1996).

As previously noted, the Project site is underlain by various deposits consisting of artificial fills, Stadium Conglomerate, Linda Vista Formation, and Mission Valley Formation. The depth to groundwater at the Project site is approximately 23 to 26 feet below land surface, based on previous groundwater monitoring reports prepared for 5111 and 5140 College Avenue; however, perched water potentially may exist at shallower depths on the Project site. Non-porous sand and clay materials are mixed amongst the strata and may create groundwater "lenses," or isolated pockets of groundwater. Sporadic groundwater lenses were encountered on the campus during previous construction activities. Seasonal fluctuations of the on-site groundwater conditions are assumed; the most probable sources of groundwater within the Project vicinity are infiltration of landscape irrigation water and precipitation.

3.6.3.5 Floodplain

FEMA's FIRMs identify flood zones and areas that are susceptible to 100- and 500-year floods. Based on a review of the FIRMs for San Diego County, the Project site is not located in any 100- or 500-year floodplains. The nearest floodplain to the Project site is associated with Alvarado Creek to the north. Also, the Project site is not located within the Dam Inundation Zone associated with Lake Murray. (See **Section 3.11, Public Services and Utilities**, for analysis regarding stormwater drainage.)

3.6.3.6 Water Quality

The State Water Resources Control Board ("SWRCB") and SDRWQCB designated SDSU as a Non-Traditional Small MS4 and subject to compliance with permanent and construction stormwater quality requirements. As part of Phase II of the Municipal Permit, the SWRCB adopted Order No. 2003-0005-DWR (General Permit No. CAS000004) for small MS4s, which requires these MS4s to develop and implement a Stormwater /Water Quality Management Plan ("SWMP") with the goal of reducing the discharge of pollutants to the maximum extent possible. SDSU completed its SWMP in February 2005, and submitted the plan to the SDRWQCB.

The following subsections summarize the water quality regulations relevant to analysis of the Proposed Project.

3.6.3.6.1 Federal Water Pollution Control Act

The objective of the Federal Water Pollution Control Act ("Clean Water Act") is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. Two main components of the Clean Water Act, Sections 303(d) and 402(p), are pertinent to the Proposed Project and are outlined below.

Section 303(d). Section 303(d) requires states to develop a list of waters that do not meet water quality standards. The waters are categorized as water quality limited segments. Seven segments within the San Diego HU are classified as "impaired." Three of these segments are located in areas that runoff from the Proposed Project potentially could reach. The three impaired segments are the San Diego River (Lower), Famosa Slough and Channel, and Pacific Ocean Shoreline (San Diego HU, San Diego River Mouth, aka Dog Beach), which are located approximately 2.0, 9.5, and 10.0 miles west of SDSU, respectively. The pollutant/stressors and potential sources for these impaired waterbodies are identified in **Table 3.6-2, Clean Water Act 303(d) List of Water Quality Limited Segments**, below.

Table 3.6-2
Clean Water Act 303(d) List of Water Quality Limited Segments

Location	Pollutant/ Stressor	Potential Source	Proposed TMDL Completion	Estimated Size Affected
San Diego River (Lower)	Fecal Coliform	Urban Runoff/Storm Sewers, Wastewater, Nonpoint/Point Source	2005	16 Miles
	Low Dissolved Oxygen	Urban Runoff/Storm Sewers, Unknown Nonpoint Source, Unknown Point Source	2019	16 Miles
	Phosphorus	Urban Runoff/Storm Sewers, Unknown Nonpoint Source, Unknown Point Source	2019	16 Miles

Table 3.6-2
Clean Water Act 303(d) List of Water Quality Limited Segments

Location	Pollutant/ Stressor	Potential Source	Proposed TMDL Completion	Estimated Size Affected
	Total Dissolved Solids	Urban Runoff/Storm Sewers, Flow Regulation/Modification, Natural Sources, Unknown Nonpoint Source, Unknown Point Source	2019	16 Miles
Famosa Slough and Channel	Eutrophic	Nonpoint Source	2019	32 Acres
Pacific Ocean Shoreline, San Diego HU (San Diego River Mouth, aka Dog Beach)	Indicator Bacteria	Nonpoint/Point Source	2005	0.37 Miles

Urban runoff/storm sewers are a potential source of fecal coliform, low dissolved oxygen, phosphorus, and total dissolved solids in the San Diego River (Lower). Nonpoint/point sources are a potential source of indicator bacteria at the Pacific Shoreline, San Diego HU.

Table 3.6-3, Probable Pollutants Causing Clean Water Act Section 303(d) Impairment Listing, is excerpted from the City's SWS Manual and presents the probable pollutants causing the Clean Water Act Section 303(d) "impaired" listings for the three impaired segments located downstream of the Proposed Project.

Table 3.6-3
Probable Pollutants Causing Clean Water Act Section 303(d) Impairment Listing

Probable Pollutants	Eutrophic	Benthic Community Degradation	Sediment Toxicity	Toxicity (in Stormwater Runoff)	Low Dissolved Oxygen
Sediments					
Nutrients	X				X
Heavy Metals		X	X		
Organic Compounds		X	X		X
Trash & Debris					X
Oxygen-Demanding Substances	X				X

Table 3.6-3
Probable Pollutants Causing Clean Water Act Section 303(d) Impairment Listing

Oil & Grease					
Bacteria & Viruses					
Pesticides				X	

States must address water quality limited segments by establishing priority rankings and developing TMDLs. A TMDL attains water quality objectives and restores beneficial uses for impaired water bodies listed under Section 303(d) of the Clean Water Act, and represents a strategy for meeting water quality objectives by allocating quantitative limits for point and non-point pollution sources. Specifically, a TMDL is defined as the sum of individual waste load allocations for point sources and non-point sources, and natural background, such that the capacity of the water body to assimilate pollutant loading (i.e., the loading capacity) is not exceeded. Therefore, the TMDL is the maximum amount of pollutant of concern that the water body can receive and still attain water quality objectives.

The SDRWQCB released the *Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region, Final Technical Report* on December 12, 2007, as required by Section 303(d) of the Clean Water Act. The numeric targets for TMDLs, which include the San Diego River and downstream beach (San Diego River Mouth, aka Dog Beach), are presented in **Table 3.6-4, Interim and Final Wet Weather Numeric Targets for Beaches and Creeks**, and **Table 3.6-5, Final Dry Weather Numeric Targets for Beaches and Creeks.** (These tables are excerpted from the 2007 SDRWQCB *Final Technical Report.*) The TMDLs are calculated for fecal coliforms, total coliforms, and enteroccoci in wet and dry weather and in interim and final phases. The SDRWQCB concluded that water quality objectives, without any allowable exceedances, are sufficient for use as dry weather TMDL targets. The SDRWQCB is considering a Basin Plan amendment to incorporate these TMDLs.

Table 3.6-4

Interim and Final Wet Weather Numeric Targets for Beaches and Creeks

	Interim Targets		Final Targets	
Indicator Bacteria	Numeric Target (MPN/100mL)	Allowable Exceedance Frequency [1]	Numeric Target (MPN/100mL)	Allowable Exceedance Frequency [2]
Fecal Coliform	400 [A]	22%	400 [A]	NA
Total Coliform	10,000 [A]	22%	10,000 [B]	NA

Enteroccoci	61 [C]	22%	61 [C]	NA

1 Exceedance frequency based on reference system in the Los Angeles Region.
2 Not applicable because there is no authorization for a reference system approach in the Basin Plan.
A Targets based on single sample maximum WQOs for contact recreation (REC-1) at creeks and beaches.
B Target based on single sample maximum WQOs for REC-1 at beaches.
C Targets based on single sample maximum WQOs for at impaired creeks and downstream beaches.
MPN = most probable number
WQO = water quality objective

Table 3.6-5
Final Dry Weather Numeric Targets for Beaches and Creeks

Indicator Bacteria	Final Targets (MPN/100 mL)	
	Beaches	Creeks
Fecal Coliform	200[1]	200[1]
Total Coliform	1,000[1]	1,000[1]
Enteroccoci	35[2]	33

1 Targets based on 30-day geometric mean REC-I WQOs.
2 Target based on 30-day geometric mean REC-I WQOs at beaches.
MPN = most probable number
WQO = water quality objective

Section 402 (NPDES Program). Section 402, added via the Water Quality Act of 1987, established the NPDES stormwater permit program. The SWRCB, through nine regional boards (including the SDRWQCB), administers the NPDES stormwater municipal permitting program to regulate discharges.

In 1990, the U.S. Environmental Protection Agency ("EPA") promulgated rules establishing Phase I of the NPDES stormwater program for categories of stormwater discharge, including "medium" and "large"" MS4s, which generally serve populations of 100,000 or greater. In 1999, the EPA promulgated rules establishing Phase II of the NPDES stormwater program for categories of stormwater discharge not covered by Phase I, including "small" MS4s, such as public campuses.

On January 24, 2007, the SDRWQCB issued the Municipal Permit (Order No.R9-2007-0001, NPDES No. CAS0108758) to the County, City, Port of San Diego, County Regional Airport Authority, and 17 other cities (i.e., the co-permittees or dischargers). The Municipal Permit requires each co-permittee to adopt its own SUSMP and ordinances consistent with the SDRWQCB-approved model SUSMP. The City implements its SUSMP through its SWS Manual, which provides information on how to comply with construction and permanent stormwater quality requirements for new development and redevelopment projects. The SWS Manual is effective as of December 2, 2002, and was revised most recently on March 24, 2008.

As part of Phase II of the Municipal Permit, the SWRCB adopted Order No. 2003-0005-DWR (General Permit No. CAS000004) for small MS4s. This order requires small MS4s to develop and implement an SWMP with the goal of reducing the discharge of pollutants to the maximum extent possible. The SDRWQCB requires the owners or operators of these MS4s, when located in watersheds subject to TMDLs, to submit notices of intent to comply with this order. Each SWMP and notice of intent must be reviewed and approved, and in some cases considered in a public hearing, prior to the small MS4 obtaining coverage under the General Permit. As previously noted, the SWRCB and SDRWQCB designated SDSU as a Non-Traditional Small MS4. SDSU completed its SWMP in February 2005 and submitted the plan to the SDRWQCB.

To assess the impacts of the proposed project and recommend appropriate mitigation, the analysis presented in this section utilized the approved SWS Manual and county-wide Model SUSMP. (While SDSU physically is located in the City, SDSU is a state agency not subject to local regulation; therefore, the SWS Manual serves as guidance in selecting, designing, and incorporating stormwater BMPs into the SDSU project review and permitting process.)

It should be noted that bacteria densities in the waters of beaches and creeks chronically have exceeded the numeric water quality objectives for total, fecal, and enterococci bacteria. Because bacteria loads within urbanized areas generally originate from urban runoff discharged from MS4s, the primary mechanism for TMDL implementation will be increased regulation of these discharges through NPDES regulations. For example, the 2007 SDRWQCB *Final Technical Report* lists the following percent reductions (expressed as an annual load) for municipal MS4s for interim wet weather TMDLs for San Diego HU (907.11) at the San Diego River Mouth (aka, Dog Beach): 53.3 percent fecal coliform, 38.2 percent total coliform, and 42.8 percent enterococci. The percent reduction (expressed as an annual load) for municipal MS4s for final wet weather TMDLs for San Diego HU (907.11) at the San Diego River Mouth (aka, Dog Beach) is 100 percent for all these bacteria. The 2007 SDRWQCB *Final Technical Report* also reports the following percent reductions (expressed as a monthly load) for municipal MS4s for final dry weather TMDLs for San Diego HU (907.11) at the San Diego River Mouth (aka, Dog Beach): 69.4 percent for fecal coliform, 74 percent for total coliform, and 93.9 percent for enterococci.

3.6.3.6.2 California Water Code

Division 7 (Porter-Cologne Water Quality Control Act). The Porter-Cologne Water Quality Control Act is aimed at the control of water quality. The Act establishes the SWRCB and its nine regional boards as the principal state agencies responsible for water quality control. As such, each regional board is required to formulate and adopt a Water Quality Control Plan ("Basin Plan") that designates beneficial uses and establishes water quality objectives to protect these beneficial uses. The San Diego Regional Water Quality Control Basin Plan was approved by the SWRCB in 1994, and has been modified by triennial reviews completed in 1998 and 2004, as well as amendments approved by the SDRWQCB.

The SDRWQCB designates beneficial uses in the Basin Plan under California Water Code section 13240. Beneficial uses are defined as the uses of water necessary for the survival or well-being of man, plants, and wildlife. The designated beneficial uses for the inland surface waters and groundwaters near the Proposed Project are summarized in **Table 3.6-6, Summary of Beneficial Uses of Inland Surface Water: San Diego River, Unnamed Tributary, and Alvarado Creek; Table 3.6-7, Summary of Beneficial Uses of Groundwater: San Diego Hydrologic Unit, Lower San Diego Hydrologic Area, Mission San Diego Hydrologic Subarea**; and, **Table 3.7-8, Basin Plan List of Beneficial Uses.**

Table 3.6-6
Summary of Beneficial Uses of Inland Surface Water: San Diego River, Unnamed Tributary, and Alvarado Creek

Inland Surface Waters	Basin Number	Beneficial Uses								
		MUN	AGR	IND	REC 1	REC 2	BIOL	WARM	WILD	RARE
San Diego River	907.11	+	X	X	X	X	X	X	X	X
Unnamed Tributary	907.11	+	X	X	X	X		X	X	X
Alvarado Creek	907.11	+	X	X	X	X		X	X	

\+ Excepted from MUN (State Board Resolution No. 88-63, *Sources of Drinking Water Policy*).
X Existing Beneficial Use

Table 3.6-7
Summary of Beneficial Uses of Groundwater: San Diego Hydrologic Unit (HU), Lower San Diego Hydrologic Area (HA), Mission San Diego Hydrologic Subarea (HSA)

Groundwater	Basin Number	Beneficial Uses			
		MUN	AGR	IND	PROC
San Diego HU	907.00				
Lower San Diego HA	907.10				
Mission San Diego HSA[1]	907.11	O	X	X	X

1 These beneficial uses do not apply westerly of the easterly boundary of the right-of-way of Intestate Highway 5 and this area is excepted from the sources of drinking water policy.
O Potential Beneficial Use
X Existing Beneficial Use

Table 3.6-8
Basin Plan List of Beneficial Uses

Beneficial Use	Description
MUN – Municipal and Domestic Supply	Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
AGR – Agricultural Supply	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
IND - Industrial Services Supply	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
PROC – Industrial Process Supply	Uses of water for industrial activities that depend primarily on water quality.
FRSH – Freshwater Replenishment	Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g. salinity).
GWR – Groundwater Recharge	Uses of water for artificial recharge of groundwater for purpose of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
REC I – Contact Water Recreation	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
REC II – Non-Contact Water Recreation	Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Table 3.6-8
Basin Plan List of Beneficial Uses

Beneficial Use	Description
WARM – Warm Freshwater Habitat	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
COLD – Cold Freshwater Habitat	Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
WILD – Wildlife Habitat	Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
RARE – Threatened or Endangered Species	Uses if water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.
NAV – Navigation	Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
COMM – Commercial and Sport Fishing	Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended to human consumption or bait process.
BIOL – Preservation of Biological Habitats of Special Significance	Uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.
EST – Estuarine Habitat	Uses of water that support estuarine habitat ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).
MAR – Marine Habitat	Uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates or wildlife water and food sources.
AQUA – Aquaculture	Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption and bait.
MIGR – Migration of Aquatic Organisms	Uses of water that support habitats necessary for migration, acclimatization between fresh and salt water.

Table 3.6-8
Basin Plan List of Beneficial Uses

Beneficial Use	Description
SPWN – Spawning, Reproduction, and/or Early Development	Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish. This use is applicable only for the protection of anadromous fish.
SHELL – Shellfish Harvesting	Uses of water that support habitats suitable for collection of filter-feeding shellfish (e.g., clams, oysters and mussels) for human consumption, commercial, or sport purposes.

Surface runoff from the Proposed Project flows into the San Diego River via Alvarado Creek to the north and an unnamed tributary of the San Diego River to the south. As noted in **Table 3.6-6** above, the existing beneficial uses of all inland surface waters include agricultural supply; industrial service supply; contact and non-contact water recreation; warm freshwater habitat; biological habitats of special significance; wildlife habitat; and rare, threatened, or endangered species (excluding Alvarado Creek). These inland surface waters are all excepted from municipal and domestic supply. Further, as noted in **Table 3.6-7** above, the existing beneficial uses within the Mission San Diego HSA include agricultural supply, industrial services supply, and industrial process supply. The potential beneficial uses within the Mission San Diego HSA are municipal and domestic supply.[2]

The SDCWA and its member agencies have identified potential or planned groundwater projects throughout the region in order to reduce dependence on imported water. However, no existing, planned, or potential groundwater projects are located in the Lower San Diego HA.

3.6.4 SIGNIFICANCE THRESHOLDS

Appendix G of the CEQA Guidelines provides that a proposed project may have a significant impact on hydrology and water quality if the project would:

a) Violate any water quality standards or waste discharge requirements.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the

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[2] No information is available in the Basin Plan for the San Diego HU and Lower San Diego HA.

local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off- site.

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

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

f) Otherwise substantially degrade water quality.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or a dam.

j) Inundation by seiche, tsunami, or mudflow.

3.6.5 POTENTIAL IMPACTS

Would the project violate any water quality standards or waste discharge requirements?

Would the project otherwise substantially degrade water quality?

Construction-Related Activities. The SWRCB requires dischargers whose projects disturb one or more acres of soil to obtain coverage under the NPDES General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading, and ground disturbances such as stockpiling or excavation. Because the Proposed Project would result in the disturbance of more than one acre of soil during construction, Project construction would result in potentially significant impacts to water quality.

During construction of the Proposed Project, there is potential that soil impacted with hydrocarbons associated with existing and former gas stations may be encountered at 5111

College Avenue, 5140 College Avenue, and 5187 College Avenue. Potentially significant water quality impacts would occur if impacted soil is not disposed of appropriately. In order to mitigate potential impacts and ensure that impacted soil is disposed of in a safe and legal manner, mitigation is provided. (For additional information, see **Section 3.5, Hazards and Hazardous Materials.**)

During construction of the Proposed Project, groundwater also may be encountered while excavating for below-ground parking and foundations. In order to allow for proper construction and site work, dewatering may be required. Potentially significant water quality impacts would occur if this pumped groundwater is not disposed of correctly. In order to mitigate for impacts and ensure that groundwater is disposed of in a safe and legal manner, mitigation is provided.

Operational-Related Activities. The Proposed Project would not generate significant amounts of non-visible pollutants. However, urban redevelopment projects in southern California, such as that proposed, commonly result in the generation of pollutants once they have been constructed. The City's SWS Manual directs project applicants to identify pollutants of concern from the Project area and in receiving waters, and to incorporate appropriate BMPs to mitigate for anticipated pollutants. Although SDSU is not subject to this manual, it was used as guidance to identify the following categories of pollutants that are anticipated and/or that the Proposed Project potentially could generate. These potential pollutants, and the impacts they can have on receiving water bodies and/or aquatic habitats are described below:

- ***Sediments*** - Sediments are soils or other surficial materials eroded and then transported or deposited by the action of wind, water, ice, or gravity. Sediments can increase turbidity, clog fish gills, reduce spawning habitat, lower young aquatic organisms survival rates, smother bottom dwelling organisms, and suppress aquatic vegetation growth.

- ***Nutrients*** - Nutrients are inorganic substances, such as nitrogen and phosphorus. They commonly exist in the form of mineral salts that either are dissolved or suspended in water. Primary sources of nutrients in urban runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams can cause excessive aquatic algae and plant growth. Such excessive production, referred to as cultural eutrophication, may lead to excessive decay of organic matter in the water body, loss of oxygen in the water, release of toxins in sediment, and the eventual death of aquatic organisms.

- ***Metals*** - Metals are raw material components in non-metal products, such as fuels, adhesives, paints, and other coatings. Primary sources of metal pollution in stormwater are typically commercially available metals and metal products. Metals of concern include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors in primer coatings and cooling tower systems. At low concentrations naturally occurring in soil, metals are not toxic. However, at higher concentrations, certain metals can be toxic to aquatic life. Humans also can be impacted from contaminated groundwater resources and bioaccumulation of metals in fish and shellfish. Environmental concerns regarding the potential for release of metals to the environment already have led to restricted metal usage in certain applications. With respect to the Proposed Project, metal pollutants may be generated from parking areas. Metal concentrations in stormwater runoff increase as traffic volumes increase. Heavy metals expected to be encountered include cadmium, copper, cobalt, iron, nickel, lead and zinc, which are deposited into the environment by vehicle exhaust, brake linings, and tire and engine wear.

- ***Organic Compounds*** - Organic compounds are carbon-based. Commercially available or naturally occurring organic compounds are found in pesticides, solvents, and hydrocarbons. Organic compounds can, at certain concentrations, indirectly or directly constitute a hazard to life or health. When rinsing off objects, toxic levels of solvents and cleaning compounds can be discharged to storm drains. Dirt, grease, and grime retained in the cleaning fluid or rinse water may also adsorb levels of organic compounds that are harmful or hazardous to aquatic life.

- ***Trash and Debris*** - Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic matter (such as leaves, grass cuttings, and food waste) are general waste products on the landscape. The presence of trash and debris may have a significant impact on the recreational value of a water body and aquatic habitat. Excess organic matter can create a high biochemical oxygen demand in a stream and lower its water quality. Also, in areas where stagnant water exists, the presence of excess organic matter can promote septic conditions, resulting in the growth of undesirable organisms and the release of odorous and hazardous compounds such as hydrogen sulfide.

- ***Oxygen-Demanding Substances*** - This category includes biodegradable organic material and chemicals that react with dissolved oxygen in water to form other compounds. Proteins, carbohydrates, and fats are examples of biodegradable organic compounds. Compounds such as ammonia and hydrogen sulfide are examples of oxygen-demanding compounds. The oxygen demand of a substance can lead to depletion of dissolved oxygen in a water body and possibly the development of septic conditions.

- ***Oil and Grease*** - Oil and grease are characterized as high-molecular weight organic compounds. Primary sources of oil and grease are petroleum hydrocarbon products, motor products from leaking vehicles, esters, oils, fats, waxes, and high molecular-weight fatty acids. Introduction of these pollutants to the water bodies are possible due to the wide uses and applications of some of these products in municipal, residential, commercial, industrial, and construction areas. Elevated oil and grease content can decrease the aesthetic value of the water body, as well as the water quality.

- ***Bacteria and Viruses*** - Bacteria and viruses are ubiquitous microorganisms that thrive under certain environmental conditions. Their proliferation typically is caused by the transport of animal or human fecal wastes from a watershed. Water containing excessive bacteria and viruses can alter aquatic habitat and create a harmful environment for humans and aquatic life. Also, the decomposition of excess organic waste causes increased growth of undesirable organisms in water.

- ***Pesticides*** - Pesticides (including herbicides) are chemical compounds commonly used to control nuisance growth or prevalence of organisms. Excessive application of a pesticide may result in runoff containing toxic levels of its active component.

The operational characteristics of the Proposed Project (student housing, retail/commercial establishments, parking lots and garages and roadways/walkways) may result in the introduction or continued contribution of urban stormwater pollutants to the downstream receiving water bodies. **Table 3.6-9, Anticipated and Potential Pollutants Summary**, identifies the anticipated pollutants of concern resulting from each component of the Proposed Project.

Table 3.6-9
Anticipated and Potential Pollutants Summary

Proposed Project Component	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash and Debris	Oxygen-Demanding Substances	Oil & Grease	Bacteria and Viruses	Pesticides
Building 1 (Mixed-Use Retail/Student Housing)	X	X			X	X	X	X	X
Building 2 (Mixed-Use Retail/Student Housing)	X	X			X	X	X	X	X
Building 3 (Parking/Retail)	X	X	X		X	X	X	X	X
Building 4 (Parking/Mixed-Use Retail/Student Housing)	X	X	X		X	X	X	X	X
Building 5 (Parking/Mixed-Use Retail/Student Housing)	X	X	X		X	X	X	X	X
Building 6 (Mixed-Use Retail/Student Housing)	X	X			X	X	X	X	X
Building 7 (Student Housing)	X	X			X	X	X	X	X
Campus Green	X	X	X		X	P	P	P	X

Table 3.6-9
Anticipated and Potential Pollutants Summary

Proposed Project Component	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash and Debris	Oxygen-Demanding Substances	Oil & Grease	Bacteria and Viruses	Pesticides

X Anticipated
P Potential
NOTE: Although none of the proposed land uses would likely generate organic compounds, this pollutant category was included in this table because the table is intended to reflect the typical pollutants that are anticipated with redevelopment projects.

Since the San Diego River (Lower) is impaired by low dissolved oxygen, the probable pollutants that cause the impairment should be managed by permanent stormwater BMPs. These probable pollutants include nutrients, organic compounds, trash and debris, and oxygen-demanding substances. The probable pollutants of the eutrophic condition of the Famosa Slough and Channel are nutrients and oxygen-demanding substances. The fact that receiver water bodies currently are impaired and that the Proposed Project could have the potential to contribute to these unacceptable conditions indicates that the Proposed Project would result in a potentially significant impact. In order to avoid contribution to downstream water quality concerns, operational mitigation is provided.

Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

As depicted on **Figure 3.6-1**, the Project site is not located within the most proximate groundwater basin (Mission Valley Groundwater Basin). The depth to groundwater at the Project site is approximately 23 to 26 feet below land surface. However, perched water potentially may exist at shallower depths throughout the Project site, particularly as non-porous sand and clay materials are mixed amongst the strata and create groundwater "lenses," or isolated pockets of groundwater.

Because the Project site currently is developed with urban uses, on-site surface percolation is minimal. This minimal percolation, therefore, is not resulting in a substantial contribution to local groundwater table recharge activity. Similar to the existing condition, exposed lawn or landscaping areas would result in some surface water percolation, which may eventually contribute to either localized or regional groundwater sources. However, because redevelopment of the site would not change or alter the existing, non-contributing nature of the site, the Project would not result in a substantial increase or decrease in local groundwater recharge or significantly change local aquifer volumes. Additionally, the Proposed Project would be served by the City's municipal water system; therefore, no wells would be affected.

In summary, given the existing and proposed developed nature of the Project site, coupled with the fact that the Project would not result in the introduction of new wells that could result in localized groundwater draw-down, the Proposed Project would not have a potentially significant impact on local and regional groundwater conditions.

Would the project 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?

Changes in stormwater flow from existing to post-Project conditions would be approximately +0.13 runoff in cubic feet per second ("cfs"), which is considered negligible for a 100-year storm event. (See **Section 3.11, Public Services and Utilities** and **Appendix 3.6** for additional information regarding stormwater runoff and drainage calculations.) The changes in stormwater flow primarily can be attributed to the existing, developed nature of the site. Although the increase in stormwater flow generated by the Proposed Project would be relatively minimal, any net increase over existing flows is considered to result in a potentially significant impact.[3]

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

A common impact to the hydrologic regime from developments is the increase in impervious

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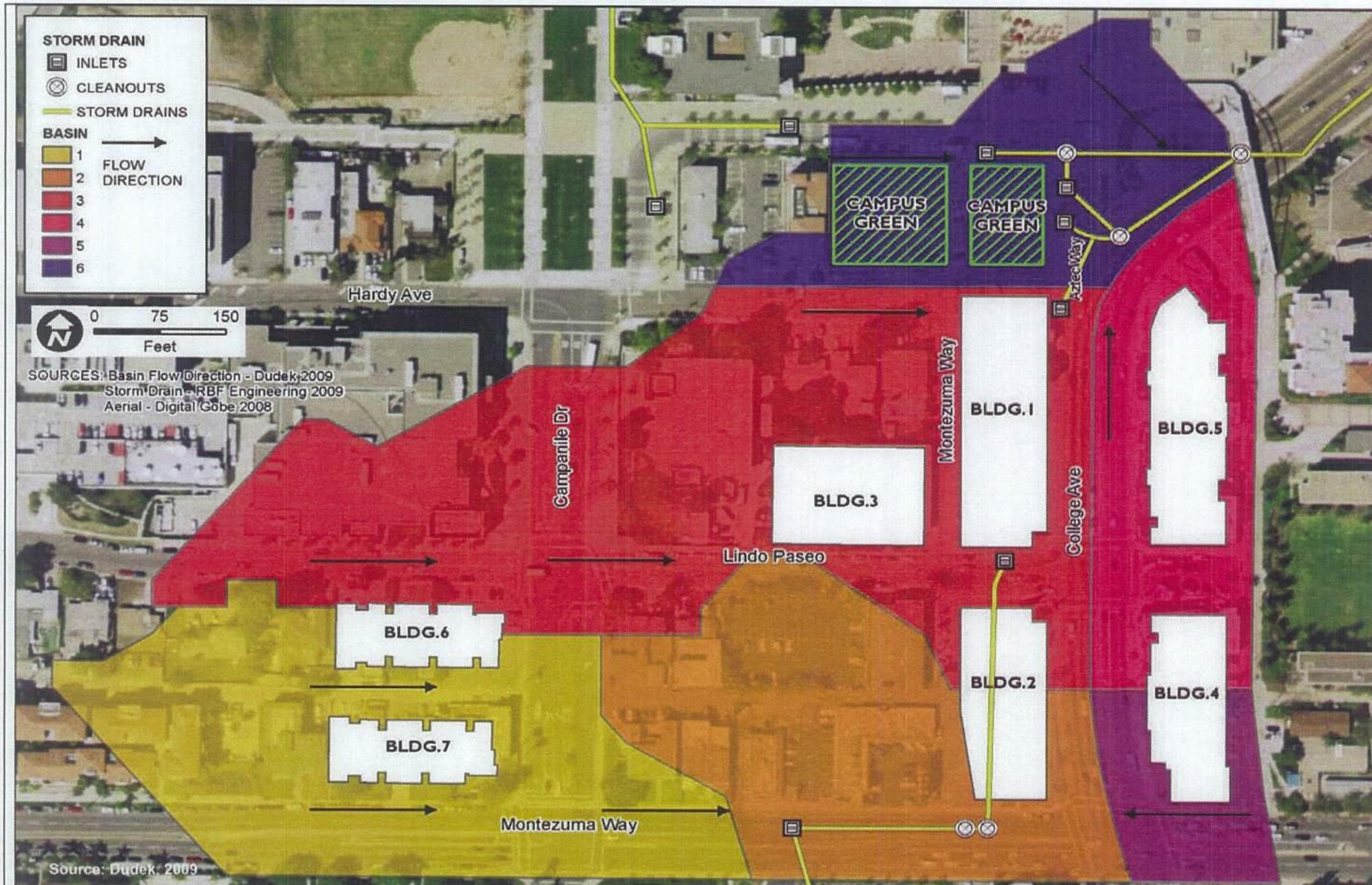
3 The Proposed Project would necessitate the relocation of an existing, 18-inch stormwater drain currently located beneath proposed Building 1 (mixed-use retail/student housing). The line would be relocated to the west (in the future pedestrian mall/Montezuma Place).

surfaces, which decreases travel time and increases runoff volumes. **Figure 3.6-3, Plaza Linda Verde Drainage Area Map**, depicts existing drainage patterns, drainage basins, storm drains, inlets, and the proposed development footprint for the Proposed Project. **Table 3.6-10, Conceptual Peak Flow Summary**, presents a summary of the conceptual drainage calculations for 2-, 10-, and 100-year storm events. Both the existing and proposed runoff are calculated to evaluate hydrologic impacts from drainage.



SDSU Plaza Linda Verde EIR

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Figure 3.6-3

Plaza Linda Verde Drainage Area Map

Table 3.6-10
Conceptual Peak Flow Summary [1]

Component	Storm event	Existing Q (cfs)	Proposed Q (cfs)	Change in Q (cfs)
Basin 1	2-YEAR	4.44	5.73	1.29
Basin 2		4.92	4.92	0.0
Basin 3		10.02	11.17	1.15
Basin 4		3.80	3.43	-0.37
Basin 5		2.18	1.97	-0.21
Basin 6		4.83	3.03	-1.8
Total 2-Year		**30.19**	**30.25**	**0.06**
Basin 1	10-YEAR	6.40	8.26	1.86
Basin 2		7.09	7.09	0.0
Basin 3		14.43	16.09	1.66
Basin 4		5.47	4.93	-0.54
Basin 5		3.14	2.84	-0.30
Basin 6		6.96	4.36	-2.6
Total 10-Year		**43.49**	**43.57**	**0.08**
Basin 1	100-YEAR	9.24	11.93	2.69
Basin 2		10.24	10.24	0.0
Basin 3		20.84	23.24	2.4
Basin 4		7.90	7.13	-0.77
Basin 5		4.54	4.10	-0.44
Basin 6		10.05	6.30	-3.75
Total 100-Year		**62.81**	**62.94**	**0.13**

1. Refer to the Stormwater Runoff Flow Calculations in Appendix A of the technical report, **Appendix 3.6**, for detailed calculations.
Q = discharge in cubic feet per second (cfs).

The calculated percent increase in runoff from the total 2-, 10-, and 100-year storms is approximately 0.002 percent for each. Because the Proposed Project would result in an increase, albeit a very slight increase, in potential runoff, a significant impact would result. In order to mitigate this potentially significant impact, mitigation is provided.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or situation on- or off- site?

As reported above, the Proposed Project would result in a 0.13 cfs increase in runoff when compared to the existing condition. Given the current, developed nature of the Project site, the Project can readily connect to the existing municipal stormwater conveyance system, which has been designed to convey water from urban areas to natural drainage courses in a non-erosive fashion. Therefore, the Proposed Project would not result in or require any modifications to natural drainage courses, such as a stream or river. Based on the minor increase in stormwater flow generated by the Proposed Project, the existing stormwater infrastructure is adequately sized to serve the Project; therefore, no potentially significant impacts would occur.

Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The Project site is not located within the designated 100-year floodplain of Alvarado Creek. Therefore, the Proposed Project would not place housing within a designated flood area, and impacts would be less than significant.

Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The Project site is not located within the 100-year floodplain of Alvarado Creek. Therefore, the Proposed Project would not place structures within a 100-year flood hazard that would impede or redirect flood flows. Therefore, impacts would be less than significant.

Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or a dam?

The Proposed Project is not located within the Dam Inundation Zone associated with Lake Murray. Therefore, the Proposed Project would not expose people or structures to hazards associated with the failure of a levee or dam, and impacts would be less than significant.

Would the project be at risk of inundation by seiche, tsunami, or mudflow?

Seiche generally is associated with the oscillation of large bodies of water (such as lakes or largely enclosed bays) immediately after a seismic event. The Proposed Project is located southwest of Lake Murray. However, the Project site is not located within the Dam Inundation Zone, which provides an indication of where overflow water would be released in the case of a seiche. Further, the Alvarado Creek drainage separates the Project site from Lake Murray and would serve as a buffer between the lake and Project site in the event a seiche caused the release of substantial amounts of water from the dam. Therefore, impacts associated with seiche would be less than significant.

The Project site also is not located adjacent to the coast, nor is it located in a low lying coastal drainage area. Therefore, the Proposed Project would not be susceptible to flooding hazards associated with a tsunami event and impacts would be less than significant.

Mudflow hazards generally are associated with slopes. Because the Proposed Project would be located atop a relatively flat mesa, the Project would not be at risk of mudflow hazards, and impacts would be less than significant.

3.6.6 CUMULATIVE IMPACTS

Due to the existing developed nature of the Project site and the proposed mitigation measures, the Proposed Project would not contribute to a cumulative change in runoff discharge rates. With respect to water quality, the Proposed Project's adherence to applicable BMPs for water quality management would be consistent with the overall regional objective of improving water quality. Adherence to the regional standards would eliminate unlawful discharge quantities or poor water quality management practices from occurring on a cumulatively considerable scale. Further, it is assumed that other projects proposed for future development also would adhere to regional and other applicable water quality protection measures, thereby eliminating a cumulative water quality condition. Therefore, the Proposed Project would not result in significant cumulative impacts to hydrology and water quality.

3.6.7 MITIGATION MEASURES

The following mitigation measures, which are based on the City's SWS Manual and county-wide Model SUSMP, are recommended to reduce the hydrology and water quality impacts of the Proposed Project to a less-than-significant level:

HWQ-1 Prior to commencement of construction, CSU/SDSU, or its designee, shall develop a project-specific Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall contain a site map(s) that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site.

The SWPPP shall include Best Management Practices ("BMPs") to protect stormwater runoff throughout construction, and identify the placement of each BMP in accordance with the California Department of Transportation's Stormwater Quality Handbooks. The SWPPP also shall contain a visual monitoring program and a chemical monitoring program for "non-visible" pollutants for implementation in the event the BMPs fail.

CSU/SDSU, or its designee, shall implement the SWPPP throughout Project construction.

HWQ-2 In the event soil impacted with hydrocarbons is encountered during Project construction, CSU/SDSU, or its designee, shall dispose of such soil in accordance with SDRWQCB Order R9-2002-342: "Waste Discharge Requirements for the Disposal and/or Reuse of Petroleum Fuel Contaminated Soils (FCS) in the San Diego Region." Order R9-2002-342 sets site-specific criteria and establishes waste discharge requirements for temporary waste piles of FCS wastes, and requires the discharger to develop and implement site-specific BMPs for control of erosion and conveyance of stormwater (SDRWQCB, 2003). Examples of BMPs include public notification, and run-on and run-off protection of stockpiles (covers and berms).

HWQ-3 In the event groundwater dewatering is necessary during Project construction, CSU/SDSU, or its designee, shall discharge in accordance with the SDRWQCB requirements outlined in Order No. R9-2008-0002, "General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region Except for San Diego Bay (WDR)" (SDRWQCB, 2008).

Prior to commencement of Project construction, CSU/SDSU, or its designee, shall test the local groundwater quality to determine if it is acceptable for use on site as dust control, whether it can be discharged to the sanitary sewer, or whether it can be tanked and hauled to a legal disposal site for treatment. If discharges of groundwater to surface water are anticipated at any point during construction, CSU/SDSU, or its designee, shall obtain a general NPDES dewatering permit from the SDRWQCB.

HWQ-4 During project design, CSU/SDSU, or its designee, shall incorporate stormwater pollution control BMPs to reduce pollutants discharged from the project site to the maximum extent practicable. Post-construction pollution prevention shall be accomplished by implementing Low Impact Development ("LID") source control and treatment control BMPs, and post-construction discharge levels shall be consistent with the stormwater and water quality regulations in effect at the time of final project design. (LID BMPs slow and filter runoff in a manner that attempts to mimic natural hydrologic conditions. Source control BMPs prevent on-site contaminants from entering the drainage system. Treatment control

BMPs reduce or eliminate contaminants from entering the drainage system before water leaves the site.)

Permanent project design BMPs for each Proposed Project component are outlined in **Table 3.6-11, Suggested Project Design BMPs.**

Table 3.6-11
Suggested Project Design BMPs

Proposed Project Component	LID BMPs	Source Control BMPs	Treatment Control BMPs
Building 1 (Mixed-Use Retail/Student Housing)	Flow-through planter with sub-surface drains	Loading dock facility should drain directly to the sanitary sewer.	Retention
Building 2 (Mixed-Use Retail/Student Housing)	Flow-through planter with sub-surface drains	Loading dock facility should drain directly to the sanitary sewer.	Retention
Building 3 (Parking/Retail)	Flow-through planter with sub-surface drains	Interior parking garage floor drains shall be plumbed to the sanitary sewer.	Hydrodynamic separator/ Vegetated buffer strip
Building 4 (Parking/Mixed-Use Retail/Student Housing)	Flow-through planter with sub-surface drains	Interior parking garage floor drains shall be plumbed to the sanitary sewer.	Retention/Hydrodynamic separator
Building 5 (Parking/Mixed-Use Retail/Student Housing)	Flow-through planter with sub-surface drains	Interior parking garage floor drains shall be plumbed to the sanitary sewer.	Retention/Hydrodynamic separator
Building 6 (Mixed-Use Retail/Student Housing)	Flow-through planters with sub-surface drains	Trash/recycling facility will be covered, graded, and paved to preclude run-on and runoff from the area.	Retention/Vegetated buffer strip
Building 7 (Student Housing)	Flow-through planters with sub-surface drains	Trash/recycling facility will be covered, graded, and paved to preclude run-on and runoff from the area.	Retention/Vegetated buffer strip
Campus Green	Self-retaining area	Attempt to drain rooftops, impervious parking lots, sidewalks, and walkways into adjacent landscaping.	Retention

NA = not applicable
NOTE: Additional source control BMPs are applicable and should be selected as final designs are developed.

HWQ-5 Following completion of Project construction, CSU/SDSU, or its designee, shall develop an Operation and Maintenance Plan requiring that permanent design stormwater pollution control BMPs be maintained throughout project operation. Maintenance activities include in the Plan shall include removal of accumulated sediment and trash, thinning of vegetative brush in biotreatment swales, and maintaining the appearance and general status of the vegetation. The Operation and Maintenance Plan shall include:

- Responsibilities for managing all stormwater BMPs;
- Employee training programs and duties to ensure compliance;
- Operation/routine service schedule (annual inspection of facilities shall occur at a minimum);
- Maintenance frequency;
- Specific maintenance activities (including maintenance of stormwater conveyance stamps); and
- Copies of resource agency permits.

HWQ-6 During Project design, CSU/SDSU, or its designee shall design the Project to ensure no net increase of surface runoff would result once the Project is operational. Project design features shall include directing drainage from rooftops, impervious parking lots, sidewalks, and walkways to adjacent landscaping, if feasible, in order to filter and infiltrate stormwater runoff.

3.6.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With adoption and implementation of the proposed mitigation measures, any potential impacts relating to hydrology and water quality would be mitigated to a level below significant.