3.9 WATER RESOURCES

This section describes the following within the existing City boundary:

- environmental setting (existing conditions and regulatory setting) water resources relating to the proposed project;
- the impacts associated with water resources that would result from the proposed project; and
- mitigation measures that would reduce these impacts.

The setting, impacts, and mitigation measures for the future service areas portion of the study area are described in Chapter 4.0, "Future Service Areas." Chapter 5.0, "Alternatives to the Proposed Project," discusses the impacts of the alternatives to the proposed project.

3.9.1 Existing Conditions

3.9.1.1 Surface Water

The City of Goleta is situated on a coastal terrace bordered on the south by the Pacific Ocean and on the north by the Santa Ynez Mountains. Within Goleta, 12 creeks drain from the foothills south to the Pacific Ocean. Most of the creeks exhibit intermittent, seasonal flows, and creek conditions vary greatly. Sections of some creeks are channelized to provide conveyance for flood flows such as along San Pedro and Tecolotito Creeks. Two creeks, Bell Creek and Tecolote Creek, form small coastal lagoons at the Pacific Ocean. With the exception of Bell Canyon and Tecolote Creeks, the remaining creeks within the City drain to one of two sloughs located to the south of the City boundary: Goleta Slough and Devereux Slough. The creeks in the City are as follows:

- Tecolote Creek;
- Bell Canyon Creek;[1]
- Ellwood Canyon Creek;[1]
- Winchester Canyon Creek;[1]
- Devereux Creek;
- El Encanto Creek;
- Glen Annie (Tecolotito) Creek;
- Los Carneros Creek;
- San Pedro Creek;[2]
- Las Vegas Creek;[2]
- San Jose Creek; and
- Maria Ygnacio Creek.

[1] Winchester Canyon and Ellwood Canyon creeks are tributaries to Bell Canyon Creek.
[2] Las Vegas Creek is a tributary to San Pedro Creek.

None of the surface waters in these creeks are listed as impaired on the Clean Water Act (CWA) Section 303(d) list. However, Goleta Slough, which receives flows from Los Carneros, Las Vegas, San Pedro, Maria Ygnacio, and San Jose Creeks, is listed as impaired for metals, pathogens, priority organics, and sedimentation/siltation.

3.9.1.2 Groundwater

The Goleta Groundwater Basin (GGWB; or Basin) underlies the City of Goleta. The Basin is approximately 9,210 acres (DWR 2004), and approximately 8 miles long and 3 miles wide (UWMP 2005, pg. 7). Basin groundwater rights were adjudicated in the Wright Judgment. In the Judgment, the Basin is subdivided into two subbasins: the North-Central Subbasin, and the West Subbasin. In much of the technical literature, the Basin is divided into three subbasins: the North Subbasin, the Central Subbasin, and the West Subbasin. Consistent with the Goleta Water District's Urban Water Management Plan (2005), this EIR follows the later nomenclature of three subbasins. Figure 3.9-1 shows the Goleta Groundwater Basin and subbasins.

The majority of useable groundwater in storage in the GGWB is present within the Central Subbasin, which is about 4 miles long and 2 miles wide (Goleta Water District 2005). The Central Subbasin is separated from the North Subbasin by a fault that appears to form a hydraulic impediment to groundwater flow. The boundary between the North and West subbasins is characterized by significant changes in water quality and hydraulic characteristics that may be related to an overall facies change and/or change in source rock material in underlying sediments (Goleta Water District 2005). The North and Central Subbasins are believed to have a combined total of about 30,000 to 60,000 acre-feet (AF) of operational storage (UWMP 2005, pg. 9).

Well hydrographs indicate that periods of historically high groundwater levels occurred in the mid 1940s, the early 1970s, and in 2004 (UWMP 2005, pg. 9). Historic low groundwater levels occurred in the 1990s. Wells located throughout the basin indicate that water levels have been increasing throughout the basin since 1991 (DWR 2004), but are still below sea level as of 2004. The basin is protected from seawater intrusion by the presence of uplifted bedrock along the More Ranch Fault (UWMP 2005, pg. 9).

The active area of recharge for the GGWB is in the lower reaches of the various creeks as they flow across the permeable sediments in the North Subbasin. Recharge is minor in the more fine-grained shallow sediments in the Central and West Subbasins, although Goleta Water District (GWD) wells in the Central Subbasin provide artificial sources of recharge as discussed under the Water Supply and Demand setting below.

Groundwater quality in the basin is characterized as being of a calcium bicarbonate nature with total dissolved solid (TDS) concentrations ranging from 700 to 800 milligrams per liter (DWR 2004). The average TDS concentration in the basin is 755 milligrams per liter based on an analysis of four public supply wells (DWR 2004). Wells were sampled, and the Basin was found to contain levels of iron, magnesium, and hydrogen sulfide that do not meet Federal and State secondary (aesthetic) drinking water regulations. These dissolved substances are removed by utilizing filtration and oxidation (UWMP 2005, pg. 40). No information is available regarding other groundwater quality impairments. The EPA has identified the Goleta area as having high levels of naturally occurring radon gas in soils and groundwater. Radon gas is known to cancer. There is no detailed data on radon gas in any of the applicable information sources.

3.9.1.3 Flooding

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) categorize and rank areas that are susceptible to flooding. Because the City has multiple watersheds draining down from the Santa Ynez Mountains, there are also multiple flood rankings throughout the City. Figure 3.9-2 shows the 100-year and 500-year flood zones in and adjacent to the City.

Most of the urban areas with structures are defined as *Zone X* according to FEMA's FIRMs (FEMA 2006). Zone X indicates areas that are outside the 500-year floodplain (i.e., areas having 0.2 percent or lower annual chance of a flood). Some portions of the City are within the 500-year floodplain, and 640 acres within the City are identified as within the FEMA-designated 100-year floodplain. The most notable is the floodplain associated with San Jose Creek and San Pedro/Las Vegas Creeks, which includes two of the City's three major commercial areas.

Tsunamis pose another flooding hazard within the City. A tsunami is a great sea wave produced by earth movement (e.g., fault movement, landslides) or volcanic eruption under the earth's surface. These waves are relatively low and harmless in the open ocean, but they can reach substantial heights when they approach shallow water depths near shore. Tsunamis can cause severe flooding and erosion in coastal areas, which can result in loss of life and destruction of property.

A seismic event on any moderate offshore fault could result in a tsunami, which would affect the project area. Examples of tsunamis in the vicinity of Goleta include the November 4, 1927, tsunami, which was initiated by a major earthquake off the coast of Point Arguello, and the 1812 tsunami in Santa Barbara, which was initiated by an earthquake-induced landslide. The Point Arguello tsunami was recorded on tide gages as far away as Hawaii and reached heights of 6 feet above mean sea level (msl) on the coasts of Santa Barbara and San Luis Obispo counties (County of Santa Barbara 1979). The Santa Barbara tsunami wiped out many coastal villages and destroyed ships (U.S. Geological Survey 2005). Under certain tidal and storm conditions, a tsunami could affect lands up to 20 to 25 foot elevations and potentially impact areas as high as 40 feet above msl (County of Santa Barbara 1991 in City of Goleta 2004a). The areas most subject to the effects of a tsunami would be along the oceanfront.

Coastal areas are generally prone to tsunamis, but studies have been conducted showing that the City could be particularly susceptible to tsunamis because of a submarine landslide complex, the Goleta slide, that occurs off the coast of Goleta. Failure of this complex could initiate a nearshore tsunami (Green et al. 2006).

Tsunami run-up and the extent of inland flooding would depend on the individual triggering event, the orientation of the coast, offshore bathymetry, and on-shore topography. A 10-foot high sea wave is considered the most probable in the area, and a contour elevation of 40 feet above msl was used in planning the tsunami risk limit. Figure 3.9-2 shows the potential tsunami run-up areas. For the most part, tsunami run-up would be stopped by the coastal cliffs and would not proceed much further inland. However, there are multiple areas where a tsunami may inundate further inland. Devereux Slough, located at the middle-western portion of the City, is a low-lying area. Devereux Slough may be impacted by a tsunami up to approximately Phelps Road. A smaller run-up area is located at campus lagoon, next to Goleta Point. The largest tsunami run-up area is in and around Goleta Slough. The run-up area of Goleta Slough reaches the Santa Barbara Airport to the north, the Devereux Slough run-up area to the west, and

Rancho Goleta Lake to the east. However, if the tsunami wave were very large, most of the City would be inundated.

3.9.1.4 Discharge Controls

Stormwater runoff may carry pollutants from *nonpoint* sources such as city streets, parking lots, lawns, gardens, and industrial areas to surface waters. Runoff from roads and parking lots carry oil and other gasoline-related contaminants. Typical pollutants in stormwater runoff from lawns and agricultural areas include pesticides, herbicides, and nutrients from fertilizers.

Discharges within the City's creek system are regulated under the National Pollutant Discharge Elimination System (NPDES) permit program. The City has obtained coverage under the Phase II Stormwater General NPDES Permit (No. CAS000004), which is discussed in more detail under the Regulatory Setting below. The City has multiple programs that implement the permit and help prevent contaminants from reaching waterways. One program is the City's catch basin cleaning program, which involves routine cleaning and maintenance of the City's catch basins. A street sweeping program also helps prevent debris and sediments from entering waterways.

3.9.1.5 Water Supply and Demand[3]

GWD supplies water to the City, University of California, Santa Barbara Airport, and water users in the unincorporated County of Santa Barbara (Goleta Water District 2005, pg. 2). The District's water supply facilities include over 200 miles of pipelines, the Corona Del Mar water treatment plant, and eight reservoirs.

GWD relies on four sources of water to meet its existing and future demands: (1) surface water via the Cachuma Project; (2) surface water from the State Water Project (SWP); (3) groundwater from the Goleta Groundwater Basin; and (4) recycled water.

Cachuma Project

The Cachuma Project is operated by the Bureau of Reclamation and consists of Bradbury Dam, which impounds water along the Santa Ynez River and forms Lake Cachuma, and various water conveyance facilities (including the Tecolote Tunnel and South Coast Conduit). The Cachuma Project is the primary water source to the GWD and provides the district with 36.25 percent, or 9,322 acre-feet per year (AFY), of the Cachuma Project's current operational yield (25,714 AFY). The Corona Del Mar treatment plant processes this raw water to make it suitable for domestic uses. Other recipients (member units) of Cachuma Project water include the City of Santa Barbara, Montecito Water District, the Carpinteria Valley Water District, and the Santa Ynez Water Conservation District Improvement District #1. Spill water from Bradbury Dam is sometimes available for use by Cachuma Project member units, including the GWD, to use in lieu of groundwater consumption or to recharge local groundwater basins. The spill water is not included in the total water supply calculations because it is an unreliable long-term water source (Goleta Water District 2005).

[3] The water supply and demand information given here is taken from the Goleta Water District's 2005 Final Urban Water Management Plan (UWMP). The UWMP contains additional detail regarding water supply and demand in the City.

State Water Project

Water from the SWP is conveyed to the GWD's Corona Del Mar water treatment plant via the Tecolote Tunnel and the South Coast Conduit. In 1991, the District purchased 4,500 AFY of SWP water via a water supply agreement with the Central Coast Water Authority (CCWA). The CCWA is a joint powers authority that operates and maintains facilities to deliver SWP water to the CCWA's nine members, including GWD. In 1994, GWD increased its allotment of SWP water to 7,450 AFY in an effort to improve the reliability of the SWP to meet the District's planned future demand for water. However, the District only has a share of the CCWA's SWP conveyance facilities. Therefore, despite having a total allotment of 7,450 AFY of SWP water, GWD plans on only receiving 4,500 AFY of SWP water during a normal year because of the variation in SWP deliveries and the GWD's share of the CCWA facilities.

Groundwater

The Goleta Groundwater Basin is another source of water to GWD. The Basin is an adjudicated groundwater basin, meaning that a court-directed process regulates groundwater extraction, storage, and replenishment. Production and storage rights to the Basin were determined in the 1989 Wright Judgment (Wright et al. v. Goleta Water District), which determined that GWD has the right to produce 2,350 AFY and has the right to defer producing (i.e., it can "bank") its annual groundwater entitlement. In addition, the Wright Judgment mandated that GWD has the right to inject surface water supplies into the Basin and later utilize those supplies, in addition to the District's entitlement. Currently, GWD has stored an additional 35,000 AF in the Goleta Groundwater Basin. GWD can access its annual entitlement and additional (banked) water via its nine major production wells. By spring 2006, six of the wells can be used for conjunctive surface water and groundwater uses (i.e., inject surface water to recharge groundwater or pump groundwater). The estimated current production capacity of GWD wells is 4,500 AFY, and is expected to increase to 5,600 AFY (Goleta Water District 2005).

Recycled Water

Recycled water is made available to the GWD via the Goleta Sanitary District. Currently, 19 recycled water users, including several golf courses, the UCSB campus, and other irrigation users, use 1,000 AFY of tertiary-treated effluent. The wastewater treatment plant can produce a maximum of 1,500 AFY of recycled water (Goleta Water District 2005).

Future and Dry Years Supplies

Existing and future water supplies available to GWD during a normal year, a single critical dry year, and multiple dry years are detailed in Table 3.9-2. The water supplies for each year type displayed in Table 3.9-2 could represent the available future water supplies in any year from 2005 through 2030, depending on climate conditions. Therefore, all potential climatic scenarios should be considered when comparing future supplies and future demands.

A critical dry year is a year with the lowest surface water runoff in the watersheds that affect GWD's water supplies. The driest years of record in the Santa Ynez River watershed (affecting the Cachuma Project supplies) and in northern California (affecting the SWP supplies) are 1951 and 1977, respectively. Runoff in these years reduced available water supplies to 74 percent of GWD's total allotment from the Cachuma Project and 20 percent of GWD's full SWP entitlement.

Multiple dry years are defined as a period of 6 consecutive years with the lowest combined total runoff. Projected water supplies from the Cachuma Project and SWP during multiple dry years

range from 74 to 100 percent and 23 to 70 percent, respectively, of the total allotments based on historical water data (Goleta Water District 2005, pgs. 15–17).

SWP deliveries to the GWD during critical dry or multiple dry years may change in the future based on the Department of Water Resources' (DWR's) SWP Delivery Reliability Report. Excerpts from the working draft of the SWP Delivery Reliability Report indicate that deliveries could be as low as 4 percent and 36 percent of normal deliveries in a single dry year and a multiple (6-year) dry period, respectively. Because the Final Reliability Report has not been published, the projected supplies in Table 3.9-1 use previously published data. The previous data indicates that single dry year and multiple dry year deliveries would be 20 percent and between 23 and 70 percent, respectively, of normal water deliveries (Goleta Water District 2005, pgs. 14–15).

TABLE 3.9-1
WATER SUPPLY SOURCES AND AMOUNTS AVAILABLE DURING A NORMAL YEAR, A SINGLE DRY YEAR, AND MULTIPLE DRY YEARS

Water Supply Source	Available Supply in AFY (actual production would be less to match demand)							
	Normal Year	Critical Dry Year[a]	Multiple Dry Years[a]					
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cachuma Project	9,322	6,898	9,322	9,322	9,322	6,898	6,898	6,898
State Water Supply[b]	4,500	1,490	4,500	1,714	4,183	2,012	1,788	2,161
Groundwater (Legal Entitlement)[c]	2,350	2,350	2,350	2,350	2,350	2,350	2,350	2,350
Banked Groundwater[d]	[stored groundwater if needed]	3,250	3,250	3,250	3,250	3,250	3,250	3,250
Recycled Water (maximum production)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Total	17,672	15,486	1,500	18,135	20,604	16,009	15,784	16,158

a Critical dry year defined as driest year during the SWP history (1977), and the driest year from the 6-year drought of record (1946–51) along the Santa Ynez River.

b GWD's total allotment and CCWA drought buffer supply is 7,450 AFY. SWP shortages for multiple dry years are based on the worst 6-year drought of record (1987–1992). The percentages of the normal year supply of SWP water received in 1987, 1988, 1989, 1990, 1991, and 1992 were 70, 23, 70, 27, 24 and 29%, respectively. These percentages were multiplied by the buffer supply of 7,450 AFY to obtain the projected deliveries during the multiple dry years. Actual deliveries cannot exceed 4,500 AFY because of the GWD's share of CCWA's SWP water delivery facilities.

c The Wright Judgment determined that GWD's average annual entitlement is 2,350 AFY. Groundwater is only used after Cachuma Project and SWP water are fully utilized. GWD's maximum pumping capability will be 5,600 AFY.

d The Wright Judgment determined that GWD may pump stored (banked) groundwater in addition to its annual pumping entitlement. Banked groundwater is not considered an annual supply source and is currently not being used to meet GWD's current annual demands during normal years. The banked groundwater is could be used by GWD during extraordinary circumstances, such as a drought. GWD has accumulated banked groundwater via these three methods: 1) injecting water from the SWP or Cachuma Project; 2) using SWP water in-lieu of pumping; and 3) natural recharge in excess of groundwater use during wet periods. The number of years that GWD can use banked groundwater depends on the quantity stored (currently 35,000 AF) and the use rate.

Water Demand

Water demand in the GWD's service area is primarily dependent on the number of water users (i.e., population) and the types of water uses. Current and future water demand by the City of

Goleta and GWD during a normal year is shown in Table 3.9-2. GWD's current water demand, calculated based on the average quantity of water consumed during 1999 to 2004, is 14,318 AFY (Goleta Water District 2005, pg. 23). Total current water use by the City during a normal year is 5,528 AFY for residential, commercial, and industrial uses (Goleta Water District 2005, pg. A-6). Future projected water uses by the City will peak at 6,792 AFY by 2025. Critical dry year and multiple dry year demands were only calculated district-wide and do not include detailed information on the City's demands.

TABLE 3.9-2
CURRENT AND PROJECTED WATER DEMANDS (AFY) BY THE DISTRICT AND THE CITY DURING A NORMAL YEAR, A CRITICAL DRY YEAR, AND MULTIPLE DRY YEARS

Water User	Current	2010	2015	2020	2025	2030
Normal Year						
District	14,318	14,813	15,368	15,890	16,476	17,010
City of Goleta	5,528	5,843	6,159	6,476	6,792	6,792
Critical Dry Year						
District	N/A	14,813	15,368	15,486	15,486	15,486
Multiple Dry Years						
District	N/A	14,813	15,368	15,890	16,476	17,010
Source: Goleta Water District 2005, pgs. 41–43 and Appendix A.						

3.9.2 Regulatory Framework

3.9.2.1 Federal and State

Federal Regulations

Clean Water Act

The CWA is the primary Federal law that protects the quality of the Nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the Nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following paragraphs provide additional details on specific sections of the CWA.

List of Impaired Water Bodies

Under CWA Section 303(d) and California's Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) (see below), the State of California is required to establish beneficial uses of state waters and to adopt water quality standards to protect those beneficial uses. Section 303(d) establishes the total maximum daily load (TMDL) process to assist in guiding the application of state water quality standards, requiring the states to identify streams whose water quality is *impaired* (affected by the presence of pollutants or contaminants) and to establish the TMDL, or the maximum quantity of a particular contaminant that a water body can assimilate without experiencing adverse effects. As mentioned above, Goleta Slough has been designated as impaired by the State Water Resources Control Board (SWRCB) in its 2002 California Section 303(d) list for a variety of constituents.

Water Quality Certification

Under CWA Section 401, applicants for a Federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a Federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. Section 401 certification or waiver is under the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB) for the City of Goleta.

Permits for Stormwater Discharge

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the NPDES program, administered by the EPA. In California, the SWRCB is authorized by the EPA to oversee the NPDES program through the RWQCBs (see related discussion under "Porter-Cologne Water Quality Control Act" below). The City of Goleta is under the jurisdiction of the Central Coast RWQCB (Region 3).

The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits. Most construction projects that disturb more than 1 acre of land are required to obtain coverage under the NPDES General Construction Permit, which requires the applicant to file a public notice of intent to discharge stormwater from construction sites and to prepare and implement a stormwater pollution prevention plan (SWPPP). As an owner or operator of a separate municipal stormwater sewer system (MS4), the City has obtained coverage under the Phase II Stormwater General NPDES Permit, as previously described. As part of the Phase II NPDES permit program, the City is required to develop a stormwater management program. The City has prepared a stormwater management plan describing their program, which contains the six required elements defined by the SWRCB (City of Goleta 2005, pg. 8). The six elements include:

- public education and outreach on stormwater impacts;
- public involvement/participation;
- illicit discharge detection and elimination;
- construction site runoff control;
- post-construction stormwater management in new development and redevelopment; and
- pollution prevention/good housekeeping for municipal operations.

Permits for Placement of Fill in Waters and Wetlands

CWA Section 404 regulates the discharge of dredged and fill materials into "waters of the United States," which include oceans, bays, rivers, streams, lakes, ponds, and wetlands. Project proponents must obtain a permit from the U.S. Army Corps of Engineers (Corps) for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Before any actions that may impact surface waters are carried out, a delineation of jurisdictional waters of the United States must be completed following Corps protocols (Environmental Laboratory 1987) in order to determine whether the project area encompasses wetlands or other waters of the United States that qualify for CWA protection. These include any or all of the following:

- areas within the ordinary high water mark of a stream, including nonperennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned, and
- seasonal and perennial wetlands, including coastal wetlands.

Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3).

Regulations Covering Development on Floodplains

Federal Flood Insurance Program
Congress, alarmed by increasing costs of disaster relief, passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts is to reduce the need for large publicly funded flood control structures and disaster relief by restricting development on floodplains.

FEMA administers the national flood insurance program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues FIRMs for communities participating in the NFIP. These maps delineate flood hazard zones in the community. The locations of FEMA-designated floodplains in Goleta have been discussed in the physical setting above.

Executive Order 11988
Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding to do the following:

- avoid incompatible floodplain development,
- be consistent with the standards and criteria of the NFIP, and
- restore and preserve natural and beneficial floodplain values.

The Federal Coastal Zone Management Act of 1972
The Federal Coastal Zone Management Act of 1972 (16 U.S.C. 1451, et seq.) set out the statutory framework for development within the coastal zone. Responsibility for implementation has been delegated to the State of California, which exercises its authority through the California Coastal Act of 1974 (see below).

State Regulations

Porter-Cologne Water Quality Control Act
The Porter-Cologne Act, passed in 1969, articulates the Federal CWA (see "Clean Water Act" above). It established the SWRCB and divided the State into nine regions, each overseen by an RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the State's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs.

The Porter-Cologne Act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Basin plans are primarily implemented by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met (see discussion of the NPDES system in the "Clean Water Act" section above). The Central Coast RWQCB has adopted a Water Quality Control Plan (Region 3 Basin Plan) (1994) to implement plans, policies, and provisions for water quality management in the region. Beneficial uses of surface waters are identified (for major surface waters and their tributaries) and described in the Region 3 Basin Plan. In addition, the Region 3 Basin Plan identifies water quality objectives for the protection of the beneficial uses of the basin.

The Porter-Cologne Act also assigns responsibility for implementing CWA Sections 303(d), 401, and 402 to the SWRCB and RWQCBs.

Beneficial Uses and Water Quality Objectives

Beneficial uses define the resources, services, and qualities of the aquatic system that are the ultimate goals of protecting and achieving high water quality. Water quality objectives are designed to protect these beneficial uses. The RWQCB has set water quality objectives for all surface waters in the basin concerning ammonia, bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. Also, specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses.

Senate Bill 610

California Senate Bill 610 (SB 610; Chapter 643, Statutes of 2001), which took effect on January 1, 2002, was created so that cities and counties could make appropriate land use decisions based on water supply and availability. SB 610 mandates that detailed water availability information, in the form of a water supply assessment as defined in the bill, be provided to city and county decision makers prior to approval of large development projects. A project subject to the requirements of SB610, as defined by California Water Code Section 10912, would be any or all of the following:

- residential development of 500 or more units;
- shopping center or business establishment employing 1,000 or more people or encompassing 500,000 or more square feet;
- office building employing 1,000 or more people or encompassing 250,000 or more square feet;
- hotel or motel with 500 or more rooms;
- industrial or manufacturing plant or industrial park employing 1,000 or more people or encompassing 650,000 or more square feet or on 40 or more acres;
- a mixed use project meeting one or more of the criteria above;
- a project with water demand equal to, or greater than, a 500 dwelling development; or
- for a supplier with 5,000 or fewer service connections, a project that would increase connections or demand by more than 10 percent.

A water supply assessment should include, in as much detail as possible, existing and future water supplies and demands over a 20 year timeline, water agreements or contracts, water demands of the proposed project, and an assessment to determine if the available supplies would be able to support the proposed project demands during normal, single dry, and multiple dry water years. Additional information is required if the sources of water supply include groundwater (DWR 2003a). An urban water management plan (UWMP) is identified in SB 610 as a fundamental source of information which, if properly prepared and complete, may be used to satisfy most or all statutory requirements.

A water supply assessment has been prepared for this project and is included in the EIR as Appendix B.

California Coastal Act Section 30000 et seq.
The California Coastal Act (CCA) establishes policies that apply to development projects within the City's Coastal Zone, pending certification of the City's Local Coastal Plan (LCP). Coastal Act Policies provide for the protection of the water quality of coastal waters, streams, wetlands, lakes, and estuaries by preventing the depletion of groundwater supplies, controlling runoff, encouraging wastewater reclamation, preventing substantial interference with surface water flow, minimizing the alteration of natural streams, and maintaining buffer areas that protect riparian habitats.

CEQA, Public Resources Code Section 21000 et seq.
The basic goal of the California Environmental Quality Act (CEQA) is to develop and maintain a high-quality environment now and in the future. The CEQA Guidelines provide a framework for the analysis of impacts to water resources.

State of California General Plan Guidelines
Each city and county in California, including charter cities, is required to prepare and adopt a comprehensive long-term, general plan for the physical development of the community and any land outside the community's boundaries that may have an impact on the community's ability to plan for its future growth (California Government Code Section 65300). A general plan is the essential planning document: the "charter" or "constitution" for all future development within a community. A general plan must contain seven mandatory elements with discrete elements addressing land use, circulation, conservation, open space, noise, safety, and housing.

3.9.2.2 Local

City of Goleta Ordinances
Development in the City is subject to the City's Inland Zoning Ordinance for those portions of the City outside of the Coastal Zone and the Coastal Zoning Ordinance for those portions of the City within the Coastal Zone. Following the adoption of the GP/CLUP, the existing Inland and Coastal Zoning Ordinances will be replaced by a single, unified zoning code that includes zoning regulations applicable to inland areas and the coastal zone. Existing City ordinances are not applicable in the context of this EIR because they will be replaced upon the adoption of the GP/CLUP.

Santa Barbara County Flood Control and Water Conservation District
The Flood Control District for Santa Barbara County provides and promotes flood protection, water conservation, and adequate water supplies for visitors of Santa Barbara County. The Flood Control District has authority to review and approve proposed improvements located along certain creeks and channels that it maintains within Goleta City limits.

3.9.3 Project Impacts and Mitigation

3.9.3.1 Thresholds of Significance

City of Goleta Environmental Thresholds Manual
The following thresholds would be applicable to individual future projects that may occur in the City's boundaries. A significant water quality impact is presumed to occur if a project:

- is located within an urbanized area of the City and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) or more acres of land;
- increases the amount of impervious surfaces on a site by 25 percent or more;
- results in channelization or relocation of a natural drainage channel;
- results in removal or reduction of riparian vegetation or other vegetation (excluding nonnative vegetation removed for restoration projects) from the buffer zone of any streams, creeks, or wetlands;
- is an industrial facility that falls under one or more of categories of industrial activity regulated under the NPDES Phase I industrial stormwater regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works; and light industrial activity);
- discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the RWQCB's Basin Plan, or otherwise impairs the beneficial uses of a receiving waterbody;
- results in a discharge of pollutants into an impaired waterbody that has been designated as such by the SWRCB or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act); or
- results in a discharge of pollutants of concern to a receiving water body, as identified by the RWQCB (County of Santa Barbara 1992, pg. 156).

Projects that are not specifically identified on the above list or are located outside of the "urbanized areas" may also have a project-specific stormwater quality impact. Stormwater quality impacts associated with these projects must be evaluated on a project-by-project basis for a determination of significance. The potential impacts of these projects should be determined in consultation with the Santa Barbara County Water Agency, Flood Control Division, and RWQCB. The issues that should be considered are:

- the size of the development;
- the location (proximity to sensitive waterbodies, location on hillsides, etc.);
- the timing and duration of the construction activity;

- the nature and extent of directly connected impervious areas;
- the extent to which the natural runoff patterns are altered;
- disturbance to riparian corridors or other native vegetation on or off site;
- the type of stormwater pollutants expected; and
- the extent to which water quality best management practices are included in the project design (County of Santa Barbara 1992, pg. 157).

CEQA Thresholds

The following thresholds, based on Appendix G of the CEQA Guidelines, were used and provide that a project may have a significant impact on water resources if it would result in:

- alteration of an existing drainage pattern or creek, which would result in erosion, siltation, or increased surface runoff;
- increased exposure of residents to storm flooding due to increased runoff in the local drainage system;
- degraded water quality as a result of sediments and other pollutants transported in stormwater runoff;
- depleted groundwater supplies or substantial interference with groundwater recharge;
- insufficient water supplies available from existing entitlements and resources;
- placement of structures that would impede or redirect flood flows within a 100-year flood hazard area;
- placement of housing within a 100-year flood hazard area;
- exposure of people or structures to a risk of loss, death, or injury involving flooding, including as a result of dam failure; and
- risk of inundation by a tsunami, seiche, or mudflow.

3.9.3.2 Relevant Discussion of GP/CLUP Policies

The Conservation, Land Use, Public Facilities, Safety, and Transportation Elements of the City's GP/CLUP contain policies that protect water resources, ensure adequate infrastructure (i.e., water supplies) for new development, or minimize the risk to humans and structures from water resource-related hazards. The following GP/CLUP policies are relevant to water resources.

Conservation Element

The Conservation Element of the City's GP/CLUP identifies policies designed to preserve and protect environmental resources such as hydrology and water quality to the maximum extent feasible while allowing reasonable development in conformance with the provisions of the Land Use Element. Specific pertinent water resource-related policies in the Conservation Element include: the designation of protected streams, streamside protection areas, wetlands, and marine habitat areas; and measures to maintain, protect, or restore stream, wetland, and marine habitat resources. These measures protect water resources through activity/use restrictions in protected areas, pollution prevention measures (especially related to new development), recommended best management practices (BMPs), stormwater management requirements, protection of the local watersheds, drainage and stormwater management plans, and erosion control measures. To protect the City's water supply, the Conservation Element mandates that

the City will promote water conservation by coordinating with GWD and requiring specific water conservation measures for new development and City facilities.

- Policy CE 2: Protection of Creeks and Riparian Areas
- Policy CE 3: Protection of Wetlands
- Policy CE 6: Protection of Marine Habitat Areas
- Policy CE 7: Protection of Beach and Shoreline Habitats
- Policy CE 10: Watershed Management and Water Quality
- Policy CE 15: Water Conservation and Materials Recycling

Land Use Element

The Land Use Element also contains water-resource-related policies that are intended to protect environmental resources and water supplies. Policies related to water resources require:

- new development to adhere to high environmental standards consistent with the standards in the Conservation Element;
- new development to only occur if adequate facilities (i.e., sufficient supplies of water and delivery infrastructure, stormwater management facilities) are available concurrent with development;
- measures to protect groundwater quality following the decommissioning of oil facilities; and
- a restriction of the urban services boundary (with respect to water supply), as well as prohibition of new private service systems and/or wells and septic systems for water or sewer.

- Policy LU 1: Land Use Plan Map and General Policies
- Policy LU 10: Energy-Related On- and Off-Shore Uses
- Policy LU 12: Land Use in Goleta's Environs

Safety Element

City policies in the Safety Element focus on protecting humans and structures from potential hazards. Water-resource related hazards include floods, mudslides, seiches, and tsunamis. The Safety Element's policies related to water-resources include:

- the identification of areas of known safety hazards, including seismic and seismically induced hazards, flooding hazards, and soil- and slope-related hazards;
- the consideration of exposure of new development to water-resource related hazards;
- multiple tsunami-related measures that ensure adequate safe harbor on site for existing and future development in the tsunami hazard area;
- development of an emergency notification and evacuation plan in response to a tsunami warning; and
- other emergency preparedness measures.

Educational materials regarding tsunamis would also be provided as part of these policies.

- Policy SE 1: Safety in General
- Policy SE 4: Seismic and Seismically Induced Hazards
- Policy SE 5: Soil and Slope Stability Hazards
- Policy SE 6: Flood Hazards
- Policy SE 8: Oil and Gas Industry Hazards
- Policy SE 10: Hazardous Materials and Facilities
- Policy SE 11: Emergency Preparedness

Public Facilities Element
The purpose of the Public Facilities Element's water-resource related policies is to ensure that adequate water and water supply facilities are available to meet the water demands of the City. Key policies in the Public Facilities Element related to water resources include:

- coordination between the City and GWD regarding new development, water demands, and water supplies;
- monitoring and evaluation of the capacity of water supply and delivery systems;
- encouragement of long-term water conservation;
- encouragement of treated wastewater recycling to reduce water consumption;
- ensuring critical water supply facilities are located outside of geologic or hydrologic hazard areas; and
- allowing new development only when required infrastructure (i.e., water supply and delivery systems, stormwater management facilities) is available.

- Policy PF 4: Water and Sewer Facilities
- Policy PF 8: General Standards for Public Facilities
- Policy PF 9: Coordination of Facilities with Future Development

Transportation Element
The Transportation Element, also known in State law as the Circulation Element, guides the continued development and improvement of the transportation system to support land uses planned in the Land Use Element. Only one City policy in the Transportation Element is relevant to water resources. This policy states that new transportation facilities should be designed in a manner that minimizes impacts on natural drainage patterns and protects water quality while accommodating transportation needs.

- Policy TE 6: Street Design and Streetscape Character

3.9.3.3 Project Impacts

Class I Impacts
There are no short- or long-term significant and unavoidable (Class I) impacts on the City's water supply or surface water, groundwater, and marine resources that would occur as a result of Plan implementation.

Class II Impacts

Short-Term Impacts

Impact 3.9-1. Degradation of Water Quality from Construction-Related Contaminants

Construction-related earth disturbing activities would occur during future development and infrastructure projects associated with buildout of the GP/CLUP. These activities could cause soil erosion and sedimentation to local waterways. Construction and grading would also require heavy equipment with potential to leak hazardous materials that may include oil and gasoline. In addition, improper use of fuels, oils, and other construction-related hazardous materials, such as pipe sealant, may also pose a threat to surface or groundwater quality. This impact is considered potentially significant.

Policies That Would Reduce Impact 3.9-1. Adherence to the requirements of the NPDES General Construction Permit and the provisions for new construction under the City's Municipal Stormwater NPDES permit would reduce these impacts. In addition, implementation of the following GP/CLUP policies would reduce impacts to a less-than-significant level.

- Policy CE 2: Protection of Creeks and Riparian Areas
- Policy CE 3: Protection of Wetlands
- Policy CE 6: Protection of Marine Habitat Areas
- Policy CE 10: Watershed Management and Water Quality

Specifically, Policies CE 2, CE 3, and CE 6 restrict activities within riparian zones, wetlands, and marine habitat areas, respectively, reducing the potential for construction-related water quality degradation in these areas. Policy CE 10 most directly addresses new development, requiring that it does not result in the degradation of water quality. The policy includes requirements related to development siting, design, incorporation of BMPs into project design, implementation of stormwater management requirements, drainage and stormwater management plans, and other measures to effectively protect water quality. The measures contained in these policies are sufficient to ensure that impacts on water quality are less than significant.

Long-Term Impacts

Impact 3.9-2. Adequacy of Water Supplies to Serve New Development

Urban Water Management Plan. New commercial, residential, and industrial developments could be constructed as a result of the City's GP/CLUP. Additional development in the City would have a significant impact if it would result in overall demand for water in excess of water supplies available in normal, critical dry, and multiple dry years with water from all existing entitlements and sources, or if such development would require new or expanded water entitlements or resources.

Table 3.9-3 compares the GWD's available water supplies and its water demands during normal, critical dry, and multiple dry years based on the UWMP of 2005. As indicated in the table, sufficient water supplies would be available during all water year types to meet GWD's projected demands. During a normal year, surplus water supplies would be available for groundwater recharge or banking. The multiple dry year reliability assessment assumes that banked groundwater will be used during the 6-year dry period to meet demands and prevent shortages. The GWD currently has banked greater than 35,000 AF, which is sufficient to supply the projected groundwater demands under these various climatic scenarios. However, sufficient water supplies would only be available if GWD's actual future demands are not greater than the projected demands, actual future water supplies are not less than GWD's projected supplies,

and banked groundwater supplies are sufficient to allow for pumping at the projected levels during critical dry and multiple dry years.

TABLE 3.9-3
PROJECTED DISTRICT WATER DEMANDS AND SUPPLIES (AFY) IN NORMAL, CRITICAL DRY, AND MULTIPLE DRY YEARS

	2010	2015	2020	2025	2030
Normal Year					
Available Supply[1]	17,372	17,672	17,672	17,672	17,672
Demand	14,813	15,368	15,890	16,476	17,010
Surplus[2]	2,559	2,304	1,782	1,196	662
Critical Dry Year					
Available Supply[3]	15,486	15,486	15,486	15,486	15,486
Demand[4]	14,813	15,368	15,486	15,486	15,486
Shortage[5]	0	0	0	0	0
Multiple Dry Year (6 year dry period ending in specified year)					
Average Available Supply[6]	17,935	17,935	17,935	17,935	17,935
Average Demand	14,813	15,368	15,890	16,476	17,010
Average Shortage	0	0	0	0	0
Total groundwater use during 6 yr dry period to meet demand and prevent shortages (AF)[6]	15,278	18,470	21,466	24,844	28,052

[1] Total available water supplies are shown but GWD will only produce the amount necessary to meet demand.

[2] The surplus represents the amount of water that GWD would not need to produce, which in most instances would be groundwater.

[3] Supply includes use of GWD's annual groundwater entitlement (2,350 AFY) plus banked groundwater up to GWD's 5,600 AFY pumping capacity.

[4] Assumes that demand will be reduced in 2020, 2025, and 2030 through voluntary demand reduction measures to meet available supplies.

[5] Shortage is the quantity of additional water supplies that would need to be acquired through new entitlements or other means to meet the water demands.

[6] The average available supply for the 6-year dry period includes banked groundwater supplies. The quantity of total groundwater used over the 6-year period includes both GWD's banked groundwater and the annual 2,350 AF GWD entitlement.

Source: Goleta Water District 2005, Tables 27, 28, and 29.

Normal water demands in the table represent the average yearly water demand using four different water use projection methods. These methods are as follows:

- use of prior GWD water use projections;
- application of a regional population growth rate to predict future residential water demand;
- use of recent historic water use growth rates as a predictor of future water demand; and
- development of water use projections using data from land use jurisdictions in the GWD service area—City of Goleta, University of California, Santa Barbara Airport (City of Santa Barbara), and Santa Barbara County (Isla Vista and other unincorporated areas) (Goleta Water District 2005, pg. A-1).

Generally, the water use projections using the land use jurisdictions method produced the highest water demands (Goleta Water District 2005, pg. A-19). GWD's land use jurisdiction-derived demand estimates include the City's projected water demand increase from a current demand of 5,528 AFY to 6,792 AFY by 2030 (Goleta Water District 2005, pg. A-6). If the

estimated average water demands for a normal water year underestimate the actual demands, then the City and GWD could have inadequate water supplies for the new development.

Another factor that could result in inadequate water supplies is the reliability of SWP deliveries. Excerpts from the working draft of the SWP Delivery Reliability Report indicate that deliveries could be as low as 4 percent in a single dry year. Because the Final Reliability Report has not been published, GWD's projected supply values use previously published data of 20 percent for a single dry year. If the Final Reliability Report indicates that SWP deliveries in a critical dry year are 4 percent of allocated deliveries, this could cause inadequate water supplies. Therefore, this impact is considered potentially significant.

Water Supply Assessment. The adoption of the GP/CLUP represents a discretionary action subject to CEQA and Water Code Section 10910(b); therefore, the City has requested that GWD prepare a Water Supply Assessment (WSA) for the project (refer to Appendix B, Water Supply Assessment). The adequacy of GWD's water service to meet the demands of the proposed GP/CLUP, as well as all other projected future demands was evaluated for a normal year, a critically dry year, and a series of dry years. The available water supply during each of these scenarios is compared to the anticipated demand, including those associated with the proposed GP/CLUP, to identify potential shortages in deliveries. The major conclusions of the study are summarized in the list below.

- In a normal year over the period 2005-2030, GWD estimates that it would have sufficient supplies to meet all currently identified water demands, including those associated with the proposed maximum buildout under the GP/CLUP.
- Water supplies in a critically dry year would meet normal year demands until the year 2020. In that year, and years after, GWD would implement demand reduction measures to reduce demands to meet the available supplies in a critically dry year. The maximum demand reduction would be 9 percent in one year to meet a water supply shortage. If GWD increases its groundwater pumping capacity by the year 2020, the predicted shortages may be avoided by producing groundwater at more than the soon-to-be maximum rate of 5,600 AFY, utilizing GWD's annual legal entitlement and banked groundwater. Hence, GWD estimates that it would have sufficient supplies to meet all currently identified water demands, including those associated with the proposed maximum buildout under the GP/CLUP, with the possibility of only a minor, short-term demand reduction in one year.
- For the multiple dry year analysis, GWD assumed six-year dry periods that would end in 2010, 2015, 2020, 2025, or 2030 and estimated that it would have sufficient supplies to meet the annual demands in a 6-year dry period that occurs during the years 2005-2030. Under a multiple-dry year scenario, GWD estimates that it would have sufficient supplies to meet all currently identified water demands, including those associated with maximum buildout under the GP/CLUP.

Policies That Would Reduce Impact 3.9-2. Implementation of the following GP/CLUP policies would reduce impacts associated with the adequacy of water supplies to a less-than-significant level.

- Policy LU 1: Land Use Plan Map and General Policies
- Policy LU 12: Land Use in Goleta's Environs
- Policy CE 15: Water Conservation and Materials Recycling
- Policy PF 4: Water and Sewer Facilities

- Policy PF 9: Coordination of Facilities with Future Development

Policy LU 1 contains a requirement that water infrastructure capacity is sufficient to serve new development or would be available by the time new development is constructed. Policy LU 12 stipulates that no additional rural lands would be annexed to the Goleta Water District and opposes the creation of new private service systems for water in rural areas north and west of Goleta, with the effect of constraining the potential additional water demand on the District. Policy CE 15 contains requirements for water conservation that would reduce the potential water demand in the City. Policy PF 4 addresses coordination with the Goleta Water District, and contains an objective that ensures that adequate water supply and distribution facilities are available to meet the cumulative needs of both existing users and new development in the city as well as outside Goleta's boundaries. Finally, Policy PF 9 requires that adequate capital facilities, such as water supply infrastructure, are provided when they are needed to support new development. The measures contained in these policies are sufficient to ensure that impacts on water supply are less than significant.

Impact 3.9-3. Changes in Groundwater Supply Resulting from New Development
New commercial, residential, and industrial developments could be constructed as a result of the GP/CLUP. To meet the water demands of these new developments, particularly during a critical dry year or multiple dry years, GWD may need to increase groundwater pumping. However, as shown in Table 3.9-4, the increased groundwater pumping would be limited to GWD's allocation (2,350 AFY) of the adjudicated groundwater basin's supply, plus banked groundwater up to GWD's 5,600 AFY pumping capacity. Under no circumstances would GWD pumping exceed the District's allocation and banked groundwater amount. Therefore, new development would not be expected to decrease the groundwater supply such that other groundwater users were affected.

However, new development would also result in increased amounts of impervious surface, reducing the ability for stormwater to percolate and recharge the groundwater basin. The primary recharge zone consists of the existing stream system in the northern part of the City, which would not be affected by buildout of the GP/CLUP. In other areas that may provide lower levels of groundwater recharge, the GP/CLUP does not call for a substantial increase in development density that would affect groundwater recharge. Nevertheless, buildout of the GP/CLUP could incrementally increase the amount of impervious surfaces and decrease the amount of rainfall that is able to recharge the groundwater basin. This is a potentially significant impact.

Policies That Would Reduce Impact 3.9-3. Several GP/CLUP policies would help protect recharge areas, allow for stormwater infiltration, and limit the amount of new impervious surfaces. Implementation of the following GP/CLUP policies would reduce this impact to a less-than-significant level.

- Policy CE 2: Protection of Creeks and Riparian Areas
- Policy CE 10: Watershed Management and Water Quality
- Policy CE 15: Water Conservation and Materials Recycling
- Policy PF 4: Water and Sewer Facilities

Policy CE 2 would restrict development in streamside areas; because these are some of the primary groundwater recharge areas, this measure allows for continued infiltration of stormwater. Policy CE 10 has an objective to prevent the degradation of the quality of

groundwater basins in and adjacent to Goleta, as well as minimizing the amount of new impervious surfaces that could reduce percolation to the aquifer. Policy CE 15 contains an objective that involves conserving scarce water supply resources, and would help limit the use of groundwater. Finally, under Policy PF 4, the City would seek to protect the quantity of groundwater resources. The measures contained in these policies are sufficient to ensure that impacts on groundwater are less than significant.

Impact 3.9-4. Alterations in Existing Drainage Patterns and Downstream Flooding and Erosion New development, infrastructure, and public facilities resulting from buildout of the GP/CLUP have the potential to alter existing drainage patterns. While development is unlikely to be approved in locations that would directly impede or redirect flows (e.g., within active floodways), new development would result in new impervious surfaces, reducing the amount of precipitation that would infiltrate, and increasing the volume of stormwater runoff. This could result in an increase in drainage flows and cause peak flows to occur earlier, potentially causing flooding or erosion impacts downstream. This impact is considered potentially significant.

Policies That Would Reduce Impact 3.9-4. The GP/CLUP policies indicate that construction in such areas would be discouraged unless no other location is available for the facility. In this case, a detailed hydraulic study would need to be performed to determine the impacts associated with the construction. Implementation of the following GP/CLUP policies would reduce this impact to a less-than-significant level.

- Policy LU 1: Land Use Plan Map and General Policies
- Policy CE 2: Protection of Creeks and Riparian Areas
- Policy CE 6: Protection of Marine Habitat Areas
- Policy CE 7: Protection of Beach and Shoreline Habitats
- Policy CE 10: Watershed Management and Water Quality
- Policy PF 8: General Standards for Public Facilities
- Policy SE 1: Safety in General
- Policy SE 6: Flood Hazards
- Policy TE 6: Street Design and Streetscape Character

Specifically, Policy LU 1 requires that the zoning code include performance standards related to drainage and stormwater runoff, and that infrastructure capacities (including stormwater infrastructure) are sufficient to serve the new development or will be available by the time that the development is constructed. Policy CE 2 contains requirements that protect natural drainage systems from development, as well as restoration to maintain or improve flow capacity and minimize channel erosion. Policy CE 6 requires that new beach or ocean bluff areas adjacent to marine and beach habitats are sited and designed to prevent impacts that could significantly degrade the marine ESHAs, such as through measures such as erosion or changes in drainage. Policy CE 7 contains protections for marine habitat areas and beach and shoreline areas that would reduce the potential for drainage impacts. Policy CE 10 addresses new development, requiring implementation of stormwater management requirements and drainage and stormwater management plans. Under Policy PF 8, construction of public buildings will be discouraged in areas that would alter drainage patterns and cause downstream flooding. Policy SE 1 would similarly require mapping and restrictions on development in hazardous areas, including areas of flood hazard. Policy SE 6 contains components to minimize damage to structures and the danger to life caused by stream flooding, dam failure inundation, and other

flooding hazards. Policy TE 6 requires that new transportation facilities be designed in a manner that minimizes impacts on natural drainage patterns. The measures contained in these policies are sufficient to ensure that impacts on drainage are less than significant.

Impact 3.9-5. Construction of Structures or Housing in a 100-Year Flood Hazard Area
The GP/CLUP area consists of approximately 640 acres located within a FEMA-designated 100-year floodplain. While much of this area is located within open space or other areas that are at low risk of flood damage, the 100-year floodplain includes areas of existing or potential future residential, commercial, office, and industrial land uses. Proposed buildout associated with the GP/CLUP within the boundary of the 100-year floodplain is located along creeks and the slough areas including vacant sites 37, 38, 40, 46 through 48, 75, 78, 91, 94, 95, and 118. New development or redevelopment within these areas could expose people or structures to risks from flooding. This impact is considered potentially significant.

Policies That Would Reduce Impact 3.9-5. Implementation of the following GP/CLUP policies would reduce this impact to a less-than-significant level.

- Policy SE 1: Safety in General
- Policy SE 6: Flood Hazards
- Policy SE 11: Emergency Preparedness
- Policy PF 8: General Standards for Public Facilities

The main objective of Policy SE 1 is to avoid siting of development or land use activities in hazardous areas, and where this is infeasible, require appropriate mitigation to lessen or minimize exposure to hazards, including flooding. Policy SE 6 contains components to minimize damage to structures and the danger to life caused by stream flooding, dam failure inundation, and other flooding hazards. Policy SE 11 contains components for emergency preparedness. The main objective of the components of Policy SE 11 are to attain a high level of emergency preparedness to limit damage and risks to public safety from natural and industrial hazards and to have effective and efficient emergency recovery procedures in place to minimize social, environmental, and economic disruption during the aftermath of an emergency. Policy PF 8 requires that critical structures and facilities (including hospitals, fire stations, police stations, water reservoirs, and communications facilities) be restricted from hydrological hazardous areas. The measures contained in these policies are sufficient to ensure that impacts related to flooding are less than significant.

Impact 3.9-6. Risk to New Development from Inundation by a Tsunami, Mudslide, or Seiche
The City does not contain any large water bodies that could be subject to a seiche. However, portions of the City are situated in tsunami run-up areas. While the GP/CLUP would not result in an increase in the areas subject to tsunami hazard, new development or redevelopment within existing areas subject to such hazards could expose people or structures to risks from flooding caused by a tsunami.

In addition, portions of the City are located adjacent to steep slopes that could be subject to mudslide. A mudslide could cause significant damage to structures and also cause injury or death to people living in those structures. This impact is considered potentially significant.

Policies That Would Reduce Impact 3.9-6. As part of the GP/CLUP, the City, in cooperation with the County and/or State Offices of Emergency Services, encourages development of an emergency notification and evacuation plan in response to a tsunami warning. The City will

cooperate with these agencies to develop educational materials informing people of the causes of tsunamis, tsunami characteristics and warning signs (such as locally felt earthquake or unusual recession of near shore waters), and appropriate tsunami response measures. The GP/CLUP policies include a tsunami warning plan and coastal bluff setbacks for structures. Implementation of the following GP/CLUP policies would reduce this impact to a less-than-significant level.

- Policy SE 1: Safety in General
- Policy SE 4: Seismic and Seismically Induced Hazards
- Policy SE 5: Soil and Slope Stability Hazards
- Policy SE 11: Emergency Preparedness
- Policy PF 8: General Standards for Public Facilities

The main objective of Policy SE 1 is to avoid siting of development or land use activities in hazardous areas, and where this is infeasible, require appropriate mitigation to lessen or minimize exposure to hazards. Policy SE 4 contains components to minimize the potential for loss of life and property and economic and social disruption resulting from seismic events and seismically induced hazards. Policy SE 5 contains components to promote safely sized, sited, and designed development in erosion-prone hazard areas. To reduce the potential loss of both public and private property in areas subject to steep slopes and erosion hazards. The main objective of the components of Policy 11 are to attain a high level of emergency preparedness to limit damage and risks to public safety from natural and industrial hazards and to have effective and efficient emergency recovery procedures in place to minimize social, environmental, and economic disruption during the aftermath of an emergency. Policy PF 8 contains components to ensure compatible and aesthetically appropriate integration of public buildings and facilities into the city's built and natural environments at appropriate locations. The measures contained in these policies are sufficient to ensure that impacts related to tsunami, mudslide or seiche are less than significant.

Impact 3.9-7. Increases in Point Source and Nonpoint Source Pollution from New Development Collection of contaminants from cars on roadways and parking lots, such as hydrocarbons, metals, and volatile and semi-volatile organics, can wash into local waterways during storm events. In addition, other urban activities such as lawn and landscape maintenance and industrial activities can be a source of nonpoint source contaminants such as pesticides, nutrients, and trash. New development would increase the amount of wastewater generated, with corresponding increases in the volume of treated wastewater that is discharged. Improper transport or storage of hazardous materials at facilities developed under the auspices of the GP/CLUP could result in release of hazardous materials to surface or ground water. Other new commercial or industrial uses could result in point-source discharges associated with production processes that could adversely affect water quality. This impact is considered potentially significant.

Policies That Would Reduce Impact 3.9-7. Adherence to the requirements of the relevant NPDES permitting process, such as obtaining individual NPDES permits for new or increased point source discharges and the source control activities under the City's Municipal Stormwater NPDES permit to address nonpoint source discharges, would reduce these impacts. In addition, implementation of the following GP/CLUP policies would reduce impacts to a less-than-significant level.

- Policy CE 2: Protection of Creeks and Riparian Areas
- Policy CE 6: Protection of Marine Habitat Areas
- Policy CE 7: Protection of Beach and Shoreline Habitats
- Policy CE 10: Watershed Management and Water Quality
- Policy SE 8: Oil and Gas Industry Hazards
- Policy SE 10: Hazardous Materials and Facilities
- Policy LU 10: Energy-Related On- and Off-Shore Uses
- Policy PF 4: Water and Sewer Facilities
- Policy TE 6: Street Design and Streetscape Character

Policy CE 2, CE 6, and CE 7 contain numerous measures protecting water quality in streams, marine and shoreline areas, such as streamside buffers, use restrictions, and implementation of stormwater treatment BMPs for new development. Policy CE 10 specifically addresses water quality protection associated with new development in great detail. Policy SE 8 contains components to minimize the risk of potential short- and long-term hazards associated with the operation of the Venoco Ellwood facilities and other oil and gas extraction, processing, and transportation facilities that could adversely affect water quality in the event of an upset. Policy SE 10 contains similar requirements related to hazardous materials and facilities. Policy LU 10 contains components to promote the discontinuation of onshore processing and transport facilities for oil and gas, the removal of unused or abandoned facilities, and the restoration of areas affected by existing or former oil and gas facilities within the city. Policy PF 4 requires that new development is connected to the public sewage collection system and therefore protect water quality from the effects of septic systems. Policy TE 6 requires that new transportation facilities be designed in a manner that protects water quality. The measures contained in these policies are sufficient to ensure that impacts related to pollution from new development are less than significant.

Class III Impacts

Short-Term Impacts

There are no short-term adverse but less-than-significant (Class III) impacts to the City's water supply or quality of surface or groundwater, or marine resources that would occur as a result of Plan implementation.

Long-Term Impacts

Impact 3.9-8. Risk to New Development from Dam Failure and Resultant Flooding

The Bradbury Dam is located on Lake Cachuma just north of Goleta. The dam is situated facing west, and the drainage travels west down through the Santa Ynez Valley. In the unlikely scenario that the Bradbury Dam failed, resulting floodwaters would travel through the Santa Ynez Valley, and not south through the Goleta planning area. This impact is considered less than significant.

Class IV Impacts

There are no short or long-term, beneficial (Class IV) impacts to the City's water supply or quality of surface or groundwater or marine resources that would occur as a result of Plan implementation.

3.9.3.5 Cumulative Impacts

Impact 3.9-9. Water Quality Impacts from Discharge to Surface Water Bodies Where Water Bodies Are 303(d) Listed

Goleta Slough has been listed under Section 303(d) of the CWA as impaired for the following constituents:

- metals,
- pathogens,
- priority organics, and
- sedimentation/siltation.

Under this impairment, the Goleta Slough has no remaining assimilative capacity or ability to accommodate additional quantities of these contaminants, irrespective of concentration. These constituents could be gathered from lawn runoff, rooftops, construction areas, and even indoor household runoff. While concentration of constituents in the discharge from any new development is anticipated to be relatively low, this small increase is still considered a significant contribution to cumulative impacts on Goleta Slough.

Policies That Would Reduce Impact 3.9-9, but Not to a Level of Insignificance. While the TMDL process will ultimately address the impairments and develop a plan for reducing the input of contaminants, the process is in its beginning stages and will not be complete until well into the planning horizon of the GP/CLUP. Other measures taken in compliance with the Clean Water Act, such as adherence to the requirements of relevant NPDES permits, would also reduce impacts. In addition, the GP/CLUP contains multiple polices that would help reduce these contaminants. In particular, Policy CE 10, "Watershed Management and Water Quality," would help alleviate sedimentation and siltation issues. Implementation of the GP/CLUP policies listed below would therefore reduce such impacts through the same mechanisms as described under Impact 3.9-7. However, because none of these policies would ensure that there is no cumulative loading of these contaminants to Goleta Slough, they would not reduce project contributions to cumulative impacts on Goleta Slough to a less-than-significant level.

- Policy CE 2: Protection of Creeks and Riparian Areas
- Policy CE 6: Protection of Marine Habitat Areas
- Policy CE 7: Protection of Beach and Shoreline Habitats
- Policy CE 10: Watershed Management and Water Quality
- Policy SE 8: Oil and Gas Industry Hazards
- Policy SE 10: Hazardous Materials and Facilities
- Policy LU 10: Energy-Related On- and Off-Shore Uses
- Policy TE 6: Street Design and Streetscape Character

Impact 3.9-10. Cumulative Effects on Water Supply

The City's future demands on the Goleta Groundwater Basin in addition to the demands of other users could potentially cause a significant cumulative impact on the groundwater basin's supplies. This cumulative impact is unlikely, however, because the Goleta Groundwater Basin is adjudicated. The adjudication process determines the safe yield of the Basin and distributes

appropriate groundwater pumping allocations to various users (including GWD) based on this safe yield. GWD would only pump its annual allocated quantity (2,350 AFY) plus any banked groundwater supplies that are available and needed. Thus, the cumulative groundwater pumping would not exceed the safe yield and groundwater supplies would not be substantially depleted. Therefore, project contributions to cumulative demand on the area's water supply would be considered less than significant.

3.9.3.6 Mitigation

Modifications to Proposed GP/CLUP Policies
No modifications are required.

Other Mitigation
No additional mitigation is identified.

3.9.3.7 Residual Impacts

As described under the Cumulative Impact discussion above, Goleta Slough has no remaining assimilative capacity or ability to accommodate additional quantities of metals, pathogens, priority organics, and sediment/silt, irrespective of concentration. Additional inputs of these constituents from new development in the City planning area would result in a significant contribution to cumulative impacts on Goleta Slough. The GP/CLUP contains multiple polices that would help reduce these contaminants. However, because none of these policies would ensure that there is no cumulative loading of these contaminants to Goleta Slough, they would not reduce project contributions to cumulative impacts on Goleta Slough to a less-than-significant level. Therefore, project contributions to cumulative impacts on Goleta Slough would be considered significant and unavoidable.

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3.9.4 References

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Acronyms

Goleta Water District (GWD) 2
mean sea level (msl 3

Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) 7
Regional Water Quality Control Board (RWQCB 8
National Flood Insurance Program (NFIP) 9
flood insurance rate maps (FIRMs) 9
Water Quality Control Plans (basin plans) 10
Water Quality Control Plan for the Klamath River and North Coastal Basins (Region 1 Basin Plan) 10

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