This section analyzes the potential environmental effects on hydrology and water quality in the CPAs from implementation of the Proposed Plans. Topics addressed include stormwater runoff and urban pollutants, flood hazards, drainage and groundwater resources. The evaluation of the proposed project’s effects on water supplies, including groundwater, is included in Section 4.16, Utilities and Service Systems.

EXISTING SETTING

The CPAs are located within the Los Angeles Basin (Basin). This general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. Historically, the annual average temperature in the vicinity of the CPAs has been 65 degrees Fahrenheit (°F) with an average winter temperature of approximately 58°F and an average summer temperature of approximately 72°F. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Total precipitation in the area has averaged approximately 15 inches annually (1949-2006). However, the region has been experiencing drought conditions since late 2011. According to the National Weather Service, downtown Los Angeles received only 5.85 inches of rain, or 39 percent of normal precipitations from July 1, 2012, through June 30, 2013.

For planning purposes, the Los Angeles Regional Water Quality Control Board (LARWQCB) divides groundwater into major groundwater basins. The CPAs are located entirely within the geographic boundaries of the Central Basin of the Los Angeles Coastal Plain Groundwater Basin, as shown in Figure 4.9-1. Groundwater accounts for most of the region’s local (i.e., non-imported) supply of fresh water, however, groundwater from the Los Angeles Coastal Plain Groundwater Basin is not a substantial source of groundwater for the region. Groundwater and surface water are inter-dependent and are physically connected by the hydrologic cycle. The hydrologic cycle refers to the circulation of water from the ocean through the atmosphere to the land and ultimately back to the ocean.

The LARWQCB also divides surface waters into hydrologic units (drainage areas). The Los Angeles-San Gabriel Hydrologic Unit covers most of Los Angeles County and small areas of southeastern Ventura County. This hydrologic unit or drainage area totaling 1,608 square miles is highly urbanized and much of the area is covered with semi-permeable or non-permeable material (i.e., paved). The Los Angeles River, San Gabriel River, and Ballona Creek, which are the major drainage systems in Los Angeles County, drain the coastal watersheds of the Transverse Ranges. These surface waters also recharge large reserves of groundwater that exist in alluvial aquifers underlying the San Fernando and San Gabriel Valleys and the Los Angeles Coastal Plain.

The City of Los Angeles has four watersheds that encompass the City: Los Angeles River, Ballona Creek, Dominguez Channel, and Santa Monica Bay. A watershed carries water "shed" from the land after rain falls and snow melts (surface water) and channels it into soils, groundwater, creeks, streams, or rivers, and eventually the ocean. The four watersheds within the City limits are highly developed with residential, commercial, and light industrial land uses. Although major parts of the Los Angeles River and Santa Monica Bay watersheds are relatively open with low imperviousness factors, much of this land is located in the mountains and generally upstream from suspected pollution sources. The average annual runoff for all four watersheds is estimated at 353 billion gallons per year. Average annual runoff for portions of watersheds located within City limits is estimated at 56 billion gallons per year.²

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¹Western Regional Climate Center, Historical Climate Summaries, http://www.wrcc.dri.edu/climate-summaries/, 2016.
²City of Los Angeles Department of City Planning, 2014 Growth and Infrastructure Report, November 2014.
LEGEND:
- Community Plan Area
- West Coast Basin
- Central Basin

The Los Angeles River watershed, which includes approximately 834 square miles, originates between the Santa Monica Mountains and the San Gabriel Mountains and covers the entirety of the Los Angeles River’s length (from the coastal plains to the San Pedro Bay). The Los Angeles River Watershed includes the coastal interface zone and coastal waters of Marina Del Rey, the Venice Canals, Ballona Lagoon, Del Rey Lagoon, and Oxford Lagoon. Several tributaries (a stream or river that flows into a main river or lake) make up the Los Angeles River watershed. These tributaries include the Upper Los Angeles River watershed, Rio Hondo, and Compton Creek. The Ballona Creek Watershed spans the Los Angeles Basin from the Santa Monica Mountains on the north, the Harbor Freeway (I-110) on the east, and the Baldwin Hills on the south. The Dominguez Channel Watershed spans approximately 133 square miles of land and water.

As shown in Figure 4.9-2, most of the South Los Angeles CPA falls within the Ballona Creek Watershed. The southeastern portion of the South Los Angeles CPA falls within the Los Angeles River Watershed and a smaller portion at the southwest boundary falls within the Dominguez Watershed. The vast majority of the Southeast Los Angeles CPA falls within the Los Angeles River Watershed. The Ballona Creek Watershed also covers a small portion along the northwest edge of the Southeast Los Angeles CPA.

SURFACE WATER HYDROLOGY

No major surface water resources occur within the South Los Angeles CPA. Major surface water resources in the vicinity of the South Los Angeles CPA include the Ballona Creek, located approximately six miles northwest of the South Los Angeles CPA border, the Dominguez Channel, located approximately one mile southwest of the border, and the Compton Creek, located approximately one-half mile east of the CPA (in the Southeast Los Angeles CPA).

The major surface water feature within the Southeast Los Angeles CPA is the Compton Creek. As shown in Figure 4.9-3, beginning roughly at Main Street between 107th Street and 108th Street, the Compton Creek is a tributary of the Los Angeles River and aids in the draining of the lower Los Angeles River watershed. Most of the creek has been channelized as a flood control measure. Before emptying into the Pacific Ocean, Compton Creek passes through the Los Angeles, Compton, and Willowbrook communities. The Compton Creek LAR/CC2 Levee Segment (located outside of the Southeast Los Angeles CPA) runs on the left (east) bank of the river from the 91 Freeway to the river’s confluence with the Los Angeles River. Other major surface water resources in the vicinity of the Southeast Los Angeles CPA include the Ballona Creek (located approximately eight miles west of the CPA), the Dominguez Channel (located approximately three miles west of the CPA), and the Los Angeles River (located approximately three miles east of the CPA).

SURFACE WATER QUALITY

The Los Angeles River, Ballona Creek, and Dominguez Watersheds in the CPAs are highly urbanized, contributing to urban runoff. Urban runoff and illegal dumping are major contributors to impaired water quality. Pollution originating over a large land area without a single point of origin and generally carried by stormwater is considered nonpoint pollution. According to the Basin Plan of the LARWQCB, uncontrolled pollutants from nonpoint sources are believed to be the greatest threats to rivers and streams within the Los Angeles Region.

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5Ibid.
FIGURE 4.9-2

WATERSHEDS

LEGEND:

- Community Plan Area
- Ballona Creek
- Dominguez Channel
- Los Angeles River


CITY OF LOS ANGELES

South and Southeast Los Angeles Community Plans
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The Basin Plan sets water quality objectives that must be attained to protect the designated beneficial uses for surface water and groundwater. There is no direct potable use of surface water within the lower Los Angeles River watershed.\(^7\)

Water quality in the watersheds of the CPAs is also influenced by a number of factors, including climate, circulation, biological activity, surface runoff, and effluent discharges. Water column contaminants include metals (particularly cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), oil and grease, chlorinated hydrocarbons (DDT and DDE), and polychlorinated biphenyls (PCBs). Other water quality parameters such as phosphates and nitrates change from day to day and are influenced by factors that include biological processes, wastewater discharge, and storm runoff.

**FLOOD CONTROL AND DRAINAGE FACILITIES**

The Los Angeles General Plan Safety Element explains that the purpose of local flood control and drainage facilities is to quickly route storm waters to the Santa Monica and San Pedro bays in order to prevent flooding in the City. The City’s storm drain system, maintained by the City of Los Angeles Bureau of Engineering (BOE), is an extensive network of underground pipes and open channels that were designed to prevent flooding. The City’s storm drain system consists of streets (including gutters), approximately 1,500 miles of storm drains beneath the streets, approximately 35,000 catch basins that collect runoff from the streets, several large spreading grounds, and several pumping facilities. From catch basins, runoff flows into underground tunnels that empty into flood control channels. Flood control channels eventually discharge to over 65 shoreline outfalls rimming the Los Angeles area coastline. Spreading grounds are facilities which re-absorb stormwater into the ground and re-supply the underground water system. Lastly, reservoirs, dams, and stormwater management ponds collect and store stormwater. The City’s system is designed to accommodate 50-year magnitude storms. During dry weather, the combined County and City’s storm drainage systems carry tens of millions of gallons of runoff daily. During storms, the system carries billions of gallons of storm runoff per day. As it flows over the land surface, stormwater picks up potential pollutants that may include sediment, nutrients (from lawn fertilizers), bacteria (from animal and human waste), pesticides (lawn and garden chemicals), metals (from rooftops and roadways), and petroleum by-products (from leaking vehicles). Stormwater runoff is carried via open flood control channels directly to the ocean or to collection systems. The storm drain system receives no treatment or filtering process and is completely separate from the City’s sewer system.

The City’s watersheds are largely covered in impervious (i.e., asphalt, concrete) surfaces. The Los Angeles County Department of Public Works (LACDPW) estimates that 32 percent of the Los Angeles River Watershed is covered in impervious surfaces. Approximately 40 percent of the Ballona Creek Watershed is covered in impervious surfaces. As stated in the Dominguez Watershed Master Plan, an estimated 62 percent of land within this watershed is covered in impervious surfaces, making the Dominguez Watershed the most-concretized watershed area in Los Angeles County.\(^8\) Impervious surfaces impair water infiltration and contribute to stormwater runoff.

With the exception of undeveloped open space areas and parks, most of the CPAs are covered with impervious surfaces including roadways, parking lots, hardscaping, and rooftops that generate stormwater runoff. Storm drains and street flows are the major flood control means of draining storm water from the CPAs. Runoff in the CPAs drains from the street into gutters and enters the City’s storm drain system through an opening in the curb called a catch basin. Curbside catch basins are the primary points-of-entry for urban runoff in the CPAs. As previously mentioned, a major flood control facility within the Southeast Los Angeles CPA is the Compton Creek, a channelized tributary of the Los Angeles River. Compton Creek is

\(^7\)Greater Los Angeles County Integrated Regional Water Management Region, Los Angeles County Flood Control District, \textit{Greater Los Angeles Integrated Regional Water Management Plan}, 2014.

\(^8\)County of Los Angeles Department of Public Works, \textit{Dominguez Watershed Master Plan}, April 2004.
highly modified, having been covered in impervious surfaces along a large portion of its length. There are no dams or reservoirs in either of the CPAs.

**GROUNDWATER RESOURCES**

The Water Replenishment District of Southern California (WRD) is the regional groundwater management agency for two of the most utilized groundwater basins in the State of California, the Central and West Coast Basins. These two groundwater basins currently provide approximately 40 percent of the total drinking water supplies used by four million people in 43 southern Los Angeles County cities, including the City of Los Angeles. The CPAs are located within the geographic boundaries of the Central Basin.

The main source of potable groundwater in the Central Basin is from the deeper aquifers of the San Pedro Formation (including from top to bottom, the Lynwood, Silverado and Sunnyside aquifers), which generally correlate with the Main and Lower San Pedro aquifers of Orange County. The shallower aquifers of the Alluvium and the Lakewood Formation (including the Gaspur, Exposition, Gardena-Gage, Hollydale and Jefferson aquifers) locally produce smaller volumes of potable water. In the northern portions of the Central Basin, referred to as the Forebay Area, many of the aquifers are merged and allow for direct recharge into the deeper aquifers. In the area referred to as the Pressure Area, the aquifers are separated by thick aquitards, which create confined aquifer conditions and protection from surface contamination.9

The major aquifers identified in the Central Basin include the following, from shallowest to deepest: Gaspur and Semiperched aquifers of the Holocene Alluvium Formation; Exposition, Artesia, Gage, and Gardena aquifers of the Upper Pleistocene Lakewood Formation; Hollydale, Jefferson, Lynwood, and Silverado aquifers of the Lower Pleistocene Upper San Pedro Formation; and Sunnyside Aquifer of the Lower Pleistocene Lower San Pedro Formation.

Groundwater elevations vary with the amount of pumping and recharge occurring. Most of the groundwater in the Central Basin remains at an elevation below sea level due to historic overpumping, so the importance of maintaining the seawater barrier wells to keep out the intruding saltwater is critical. Spreading grounds are used to enhance groundwater recharge by retaining as much surface water as possible. Areas are flooded with water which percolates into aquifers and supplements the natural supply. The process is limited by available storage capacity, and ability of the basin to accept the water. Spreading grounds are not always enough to compensate for declining groundwater levels.

According to the California Department of Water Resources (DWR), groundwater enters the Central Basin through surface and subsurface flow and by direct percolation of precipitation, stream flow, and applied water in the forebay areas. Natural replenishment of the groundwater is largely from surface and subsurface inflow through Whittier Narrows, located approximately 10 miles northeast of the CPAs. Percolation in the Los Angeles Forebay from the north is restricted as a result of urbanization at the surface, which prevents downward percolation.10 Listed below are the existing beneficial uses identified in the Basin Plan for the Los Angeles Coastal Plain Groundwater Basin:

- Municipal and Domestic Supply - Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
- Industrial Service 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 repressurization.
- Industrial Process Supply - Uses of water for industrial activities that depend primarily on water quality.

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10Ibid.
EROSION AND SILTATION

The CPAs are located in the flat plain of the central Los Angeles Basin that falls to the south of the Santa Monica Mountains. Aside from gradual changes in elevation, the area is generally flat. There are no major land formations or waterways that define the area. The soils underlying the CPAs generally have moderate natural drainage properties and a moderate erosion hazard. Since the CPAs are highly urbanized areas covered by impermeable surfaces, the potential for erosion is relatively low.

FLOODING AND INUNDATION

The City of Los Angeles is subject to a wide range of flood hazards, including those caused by intense storms, earthquakes, and failure of man-made structures. Storm conditions, topography, drainage patterns, and the adequacy of the storm drain system combine under certain conditions to create areas of flooding. The City of Los Angeles participates in the National Flood Insurance Program (NFIP) and provides emergency response services for flood events. Figure 4.9-4 illustrates the U.S. Federal Emergency Management Agency (FEMA) identified areas affected by both the 100-year storm frequency flood and the 500-year storm frequency flood in the project area. The City’s Safety Element defines a 100-year flood as a flood which results from a severe rainstorm with a probability of occurring approximately once every 100 years, and a 500-year flood as a flood which results from a severe rainstorm with a probability of occurring once every 500 years.

South Los Angeles CPA. A 100-year flood plain intersects the South Los Angeles CPA east of Van Ness Avenue, between Florence and Slauson Avenues. A 500-year flood plain is located in the northern and central portions of the South Los Angeles CPA, predominantly south of the Santa Monica Freeway (I-10). Storm water runoff within the South Los Angeles CPA is directed toward Ballona Creek via storm drains, curbs and gutters (street flows), and urban sheet flow.

Southeast Los Angeles CPA. Within the Southeast Los Angeles CPA, there are no areas designated as 100-year flood plains. However, there are several corridors, including segments of Broadway, Main Street, San Pedro Street, Avalon Blvd, and Hooper Ave designated as 500-year flood plains. Compton Creek is the major flood control measure for draining storm water from the Southeast Los Angeles CPA and directing it safely to the Pacific Ocean. Storm water runoff within the CPA is directed toward Compton Creek via storm drains, curbs and gutters (street flows), and urban sheet flow.

The CPAs are located more than five miles inland from the Pacific Ocean. According to the Safety Element of the General Plan, although the CPAs are located within a Potential Inundation Zone, they are not located within a Tsunami Hazard Mitigation Zone. Inundation by tsunami or seiche, a surface wave created when a body of water is shaken, is unlikely to occur in the CPAs.\textsuperscript{11}\textsuperscript{12} The potential for inundation by seiche in the City of Los Angeles has been mitigated by the Los Angeles Department of Water and Power through regulation of the level of water in its storage facilities and providing walls of extra height to contain seiches and prevent overflow, the monitoring of dams and reservoirs during storms, and institution of measures in the event of potential overflow.\textsuperscript{13} Furthermore, as the CPAs are highly urbanized and the amount of exposed soils is extremely limited, inundation by mudflow could not occur within the CPAs.

\begin{footnotesize}
\begin{itemize}
\item[12] City of Los Angeles Department of City Planning, \textit{City of Los Angeles General Plan, Safety Element, Exhibits F and G}, 1996.
\item[13] Ibid.
\end{itemize}
\end{footnotesize}
REGULATORY FRAMEWORK

FEDERAL

Clean Water Act of 1972 Federal Water Pollution Control Act (Clean Water Act [CWA]). The federal Clean Water Act (CWA) was first enacted in 1948 to (1) restore and maintain the chemical, physical, and biological integrity of the Nation's waters by preventing point and nonpoint pollution sources, (2) provide assistance to publicly owned treatment works for the improvement of wastewater treatment, and (3) maintain the integrity of wetlands. With subsequent amendments, current regulations provide that discharges of stormwater to waters of the United States from industrial activities and from construction activities that encompass one acre or more of soil disturbance are effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

The CWA directs states to establish water quality standards for all “waters of the United States” and to review and update such standards on a triennial basis. The U.S. Environmental Protection Agency (USEPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs in California to the State Water Resources Control Board (SWRCB), and nine Regional Water Quality Control Boards (RWQCB). CWA Section 303(c)(2)(b) requires states to adopt water quality standards for all surface waters of the United States based on the water body’s designated beneficial use. Water quality standards for the Los Angeles region are set forth in The Water Quality Control Plan Los Angeles Region Basin Plan (1995, and as amended in 2010), which is administered by the LARWQCB.

CWA Section 303(d): Total Maximum Daily Loads (TMDLs). CWA Section 303(d) bridges the technology-based and water quality-based approaches for managing water quality. CWA Section 303(d) requires that states make a list of waters that are not attaining standards after technology-based limits are put in place. For waters on this list (and where the USEPA administrator deems they are appropriate), the states are to develop TMDLs. TMDLs are established at the level necessary to implement applicable water quality standards. A TMDL must account for all sources of pollutants that cause the water to be listed. Federal regulations require that TMDLs, at a minimum, account for contributions from point sources and nonpoint sources.

CWA Sections 401 and 402: National Pollutant Discharge Elimination System (NPDES). The goal of the NPDES diffuse-source regulations is to improve the quality of stormwater discharged to receiving waters to the “maximum extent practicable” through the use of best management practices (BMPs). The NPDES permit system was established in the CWA to regulate point source discharges (e.g., a municipal or industrial discharge at a specific location or pipe) and certain types of diffuse source dischargers (e.g., municipal stormwater and construction runoff). As defined in the federal regulations, nonpoint, or diffuse, sources are generally exempt from federal NPDES permit program requirements. For point source discharges, each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. For diffuse-source discharges the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of: (1) characterizing receiving water quality, (2) identifying harmful constituents, (3) targeting potential sources of pollutants, and (4) implementing a Comprehensive Stormwater Management Program. State implementation of the NPDES program as it relates to the Proposed Plans is discussed below under state and regional regulations.

National Flood Insurance Program. In response to Executive Order 11988 (Flood Plain Management), Congress acted to reduce the costs of disaster relief by passing two acts that resulted in the National Flood Insurance Program (NFIP), which is administered by FEMA. FEMA issues Federal Insurance Rate Maps (FIRMs), which delineate flood hazard zones in communities participating in the NFIP. The maps indicate
the risk premium zones applicable in a community, and when those rates are effective, and if a proposed action is located in the base or critical action flood plain. The City of Los Angeles is a participating member of the NFIP, and flood insurance is available to property owners in the CPAs.

STATE

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) establishes the SWRCB and each RWQCB as the principal state agencies for coordinating and controlling water quality in California. Specifically, the Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and groundwater) and directs the RWQCBs to develop regional Basin Plans. California Water Code Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Porter-Cologne Act is administered in the CPAs by the LARWQCB and is implemented at the city level through various programs.

Statewide NPDES General Construction Activity Stormwater Permit (GCASP). Pursuant to the CWA Section 402(p) and the Porter-Cologne Act, the SWRCB has issued a statewide NPDES General Permit or GCASP under Order No. 2009-0009-DWQ, NPDES No. CAR000002, which was adopted on September 2, 2009. The Order requires that construction activities obtain a GCASP permit and submit a Notice of Intent (NOI) along with the appropriate fee to the SWRCB. Construction activities subject to the GCASP include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of one acre of total land area or more.

Prior to obtaining the GCASP, an adequate Stormwater Pollution Prevention Plan (SWPPP) has to be prepared. The SWPPP specifies BMPs that will prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite into receiving waters. BMPs are intended to diminish impacts to the Maximum Extent Practicable (MEP), which is a standard developed by Congress to allow regulators the flexibility needed to shape programs to the site-specific nature of municipal stormwater discharges. The SWPPP includes a description of: (1) the site, (2) erosion and sediment controls, (3) means of waste disposal, (4) implementation of approved local plans, (5) control of post-construction sediment and erosion control measures and maintenance responsibilities, and (6) non-stormwater management controls. Dischargers are also required to inspect their construction sites before and after storms to identify stormwater discharge associated with construction activity and to identify and implement controls where necessary.

Regional Dewatering General Waste Discharge Requirements (WDR). The WDR has issued a general permit for construction dewatering (Waste Discharge Requirements for Discharges of Groundwater from Construction Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties Order No. R4-2008-0032, and NPDES No. CAG994004). Discharges covered by this permit include but are not limited to, treated or untreated groundwater generated from permanent or temporary dewatering operations (removing or draining water from ground or surface water). Wastewater discharge from permanent or temporary dewatering activities include, but are not limited to, the following: treated or untreated wastewater from permanent or temporary construction dewatering operations; subterranean seepage dewatering; and incidental collected stormwater from basements. If dewatering is required for construction or operation of projects that could be developed in the CPAs as a result of implementing the Proposed Plans, the projects would have to obtain coverage under this general permit.

Cobey-Alquist Flood Plain Management Act. California Water Code Sections 8400 et seq. documents the State’s intent to support local governments in their use of land use regulations to accomplish floodplain management and to provide assistance and guidance, as appropriate.

LOCAL

Water Quality Control Plan Los Angeles Region Basin Plan (Basin Plan). The LARWQCB adopted the Basin Plan for the Los Angeles Region on June 13, 1994. The Basin Plan designates the beneficial uses of receiving waters, including the Los Angeles River Estuary (Los Angeles Harbor) to which the CPAs discharge, and specifies both narrative and numerical water quality objectives for these receiving waters in the County. Water quality objectives, as defined by the California Water Code Section 13050(h), are the “limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses or the prevention of nuisance within a specific area.”

The Basin Plan, under CWA Section 303(d), is intended to protect surface waters and groundwater from both point and nonpoint sources of pollution within the CPAs, and for establishing water quality standards and objectives in its Basin Plan that protect the beneficial uses of various waters. To do this, the Basin Plan designates beneficial uses for surface water and groundwater, sets narrative and numerical water quality objectives that must be attained (or maintained) to protect the designated beneficial uses, and describes implementation programs to protect all waters in the region. According to the Basin Plan:

> Beneficial uses form the cornerstone of water quality protection under the Basin Plan. Once beneficial uses are designated, appropriate water quality objectives can be established and programs that maintain or enhance water quality can be implemented to ensure the protection of beneficial uses. The designated beneficial uses, together with water quality objectives (referred to as criteria in federal regulations), form water quality standards.

The State has developed TMDLs, which are a calculation of the maximum amount of a pollutant that a water body can have and still meet Water Quality Objectives (WQOs) established in the Basin Plan, in order to protect the valuable uses of its waters. The CWA is within the jurisdiction of the LARWQCB. The LARWQCB provides permits for projects that may affect surface waters and groundwater locally.

Tables 4.9-1 through 4.9-3 list the beneficial uses for surface water features in the vicinity of the CPAs including the Los Angeles River (including Compton Creek), Ballona Creek, and Dominguez Channel.

MS4 Permit and Los Angeles County Stormwater Quality Management Plan (SQMP). Discharges of urban runoff into municipally-owned separate storm sewer systems (MS4s) are regulated under the general NPDES stormwater permit that has been issued by the RWQCB for Los Angeles County (“MS4 Permit”). Development that could occur under the Proposed Plans would be subject, as applicable, to the waste discharge requirements issued by the RWQCB for the MS4 Permit.

The City of Los Angeles is a co-permittee under the MS4 Permit, and therefore has joint/concurrent legal authority to enforce the terms of the permit within its jurisdiction, including the CPAs. The MS4 Permit is intended to ensure that combinations of site planning, source control and treatment control practices are implemented to protect the quality of receiving waters. The permit requires that new development employ best management practices (BMPs) designed to control pollutants in stormwater runoff to the maximum extent practicable (MEP), details specific sizing criteria for BMPs, and specifies flow control requirements. Site design or planning management BMPs are used to minimize runoff from new development and to discourage development in environmentally sensitive areas that are critical to maintaining water quality. These BMPs include structural practices, source control and treatment techniques and systems, and site design planning principles addressing water quality.

Among other things, the MS4 Permit requires the co-permittees to prepare a Stormwater Quality Management Plan (SQMP) specifying the BMPs that will be implemented to reduce the discharge of pollutants in stormwater to the MEP. For development within the City of Los Angeles (which would include the CPAs), the SQMP is implemented through the City’s Standard Urban Stormwater Mitigation Plan (SUSMP).
TABLE 4.9-1: EXISTING BENEFICIAL USES OF LOS ANGELES RIVER

<table>
<thead>
<tr>
<th>Uses</th>
<th>LA River</th>
<th>LA River Estuary</th>
<th>Compton Creek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal (Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.)</td>
<td>P /a/</td>
<td>P /a/</td>
<td>P /a/</td>
</tr>
<tr>
<td>Navigation (Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.)</td>
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<tr>
<td>Industrial Service 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.)</td>
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<td>P</td>
<td></td>
</tr>
<tr>
<td>Industrial Process Supply (Uses of water for industrial activities that depend primarily on water quality.)</td>
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<td></td>
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<tr>
<td>Groundwater Recharge (Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.)</td>
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<td>E</td>
<td>E</td>
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<tr>
<td>Water Contract Recreation (Uses of water for recreation 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, white water activities, fishing, or use of natural hot springs.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Non-Contact Water Recreation (Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.)</td>
<td>E</td>
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<td>E</td>
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<tr>
<td>Commercial and Sports Fishing (Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.)</td>
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<tr>
<td>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.)</td>
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<td>E</td>
<td>E</td>
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<tr>
<td>Estuarine Habitat (Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds.)</td>
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<tr>
<td>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., marine mammals, shorebirds.)</td>
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<td>E</td>
</tr>
<tr>
<td>Wildlife Habitat (Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Rare Threatened Endangered Species (Uses of 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.)</td>
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<td>E</td>
</tr>
<tr>
<td>Migration of Aquatic Organisms (Uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Spawning, Reproduction, and/or Early Development (Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.)</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shellfish Harvesting (Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.)</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Habitat (Uses of water that support wetland ecosystems, including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.)</td>
<td>E</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

Note: E - Existing Beneficial  P - Potential Beneficial
/a/ Designated under SB 88-63 and RB 89-03.
/b/ Access prohibited by Los Angeles County DPW.
TABLE 4.9-2: EXISTING BENEFICIAL USES OF BALLONA CREEK

<table>
<thead>
<tr>
<th>Uses</th>
<th>Ballona Creek</th>
<th>Ballona Creek Estuary</th>
<th>Ballona Lagoon</th>
<th>Ballona Wetlands</th>
<th>Del Rey Lagoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal (Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.)</td>
<td>P /a/</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Navigation (Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Industrial Service 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.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Industrial Process Supply (Uses of water for industrial activities that depend primarily on water quality.)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Groundwater Recharge (Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.)</td>
<td>P /b/</td>
<td>P /b/</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Water Contract Recreation (Uses of water for recreation 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, white water activities, fishing, or use of natural hot springs.)</td>
<td></td>
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</tr>
<tr>
<td>Non-Contact Water Recreation (Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Commercial and Sports Fishing (Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>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.)</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Estuarine Habitat (Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
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</tr>
<tr>
<td>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., marine mammals, shorebirds.)</td>
<td></td>
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</tr>
<tr>
<td>Wildlife Habitat (Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Rare Threatened Endangered Species (Uses of 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.)</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Migration of Aquatic Organisms (Uses of water that support habitats necessary for migration, acclimation between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.)</td>
<td>E</td>
<td>E</td>
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<tr>
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<td>E</td>
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</tr>
</tbody>
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Note:  E - Existing Beneficial  P - Potential Beneficial
/a/ Designated under SB 88-83 and RB 89-03.
/b/ Access prohibited by Los Angeles County DPW.

<table>
<thead>
<tr>
<th>Uses</th>
<th>Dominguez Channel Estuary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal (Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.)</td>
<td>P /a/</td>
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P - Potential Beneficial  
/a/ Designated under SB 88-63 and RB 89-63.  
/b/ Access prohibited by Los Angeles County Department of Public Works.  
Enhanced Watershed Management Plans. On November 8, 2012, the Regional Board adopted the current municipal stormwater permit (NPDES Permit No. CAS004001, Order No. R4-2012-0175). This Permit contains the most extensive provisions to date with 32 incorporated TMDLs, of which 22 affect the City, expanded programs for Minimum Control Measures (MCMs), development and implementation of watershed management plans, and expanded monitoring provisions.

This 2012 Stormwater NPDES Permit provides for the development of Enhanced Watershed Management Programs (EWMPs) by the MS4 permittees to implement the requirements of the Permit on a watershed scale through customized strategies, control measures, and Best Management Practices. These EWMPs will also address the compliance requirements of the 22 TMDLs that currently are effective, as well other elements of the City’s Stormwater Program. As the largest agency within its own watersheds, the City will coordinate the development of four EWMPs, engage the technical services of a consultant, and coordinate the planning activities with other municipalities in the watersheds, the County, and stakeholder organizations. The EWMPs are due to the RWQCB as final documents by April 2016.

Integrated Regional Water Management Plan. Proposition 50, approved by California voters in 2002, set aside $380 million for Integrated Regional Water Management Plan (IRWMP) related grants. Integrated planning involves local agencies and interest groups working together to coordinate planning activities across jurisdictional boundaries. In this regional approach, individual agencies’ efforts are combined in order to leverage resources and meet multiple water resource needs at the same time. The result is a multi-objective approach that multiplies the benefits of any individual agency’s single project. The Greater Los Angeles County Region, comprised of five sub-regions (Upper Los Angeles River, North Santa Monica Bay, South Bay, Upper San Gabriel River and Rio Hondo River and Lower San Gabriel and Los Angeles River), are collaborating to develop an IRWMP for the region that would describe regional objectives and priorities, water management strategies, implementation, impacts and benefits, data management, financing, stakeholder involvement, relationship to local planning, and state and federal coordination.

County of Los Angeles Hydrology Manual. Drainage and flood control within the CPAs is regulated by the LADPW and the Los Angeles County Department of Public Works (LACDPW). The County has jurisdiction over regional drainage facilities. The LACPW’s Hydrology Manual requires that a storm drain system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event. Areas with sump conditions are required to have a storm drain conveyance system capable of conveying flow from a 50-year storm event. The County also limits the allowable discharge into existing storm drain facilities based on the MS4 Permit and is enforced on all new developments that discharge directly into the County’s storm drain system. Any proposed drainage improvements of County owned storm drain facilities such as catch basins and storm drain lines requires the approval/review from the LACFCD department.

City of Los Angeles Standard Urban Stormwater Mitigation Plan (SUSMP). NPDES requirements mandate that stormwater BMPs be implemented during project construction into SWPPPs and during project operation into SUSMPs. The requirements are enforced through the City’s Building and Safety Department plan review and approval process. During the review process, project plans are reviewed for compliance with stormwater requirements. Plans and specifications are reviewed to ensure that the appropriate BMPs are incorporated to address stormwater pollution prevention goals.

The purpose of the SWPPP is to identify potential pollutant sources that may affect the quality of discharge associated with construction activity, identify non-stormwater discharges, and design the use and placement of BMPs to effectively prohibit the entry of pollutants from the site into the public storm drain system during construction. The purpose of SUSMP is to reduce the discharge of pollutants in stormwater by outlining BMPs which must be incorporated into the design plans of new development and redevelopment.

The SUSMP provisions that are applicable to new residential and commercial developments include, but are not limited to, the following:

- **Peak Stormwater Runoff Discharge Rate:** Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak stormwater discharge rate will result in increased potential for downstream erosion;
- **Provide storm drain system Stenciling and Signage (only applicable if a catch basin is built on-site);**
- **Properly design outdoor material storage areas to provide secondary containment to prevent spills;**
- **Properly design trash storage areas to prevent off-site transport of trash;**
- **Provide proof on ongoing BMP Maintenance of any structural BMPs installed; and**
- **Design Standards for Structural or Treatment control BMPs:** Post-construction treatment control BMPs are required to incorporate, at minimum, either a volumetric or flow based treatment control design or both, to mitigate (infiltrate, filter or treat) stormwater runoff on site.

The City’s Standard Urban Stormwater Mitigation Plan (SUSMP) requirements are a LARWQCB-approved component of the county’s MS4 Permit to address stormwater pollution from new construction and redevelopment projects. The SUSMP requirements contain a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce the post-project discharge of pollutants from stormwater conveyance systems. The SUSMP requirements define, based upon land use type, the types of practices that must be included and issues that must be addressed as appropriate to the development type and size. The SUSMP requirements apply to all development and redevelopment projects that fall into one of the following categories:

- Single-family hillside residences
- One acre or more of impervious surface area for industrial/commercial developments
- Automotive service facilities
- Retail gasoline outlets
- Restaurants
- Ten or more residential units
- Parking lots of 5,000 square feet or greater or with 25 or more spaces
- Projects located in or directly discharging to an Ecologically Sensitive Area

**Los Angeles Municipal Code.** Section 17.05(M) of the Los Angeles Municipal Code (LAMC) prescribes performance standards for storm drain systems. Storm drains must be designed in conformance with standards approved by the City Engineer. Storm drain facilities that intercept and convey all runoff to a suitable point of disposal are required when runoff exceeds the limiting depth of street flow as determined by the City Engineer. Storm drains must be of sufficient capacity in all cases to prevent flooding of building sites from a storm of a 50-year frequency.

LAMC Chapter 64.72 lists the City’s requirements for stormwater and urban runoff pollution control. Provisions include prohibitions of illicit discharges, illicit connections, and spills, dumping and disposals to the MS4; pollutant control requirements from sites of industrial activities; and requirements for construction activity stormwater measures. The Los Angeles Municipal Code also promulgates requirements for stormwater BMPs, which include the following:

- For parking lots with more than 25 spaces, BMPs must be implemented to reduce the discharge of pollutants to the MEP.
- For other premises exposed to stormwater, BMPs, if they exist, or other steps shall be used to reduce the discharge of pollutants to the MEP. This includes the removal and lawful disposal from all parts of the premises exposed to stormwater of any solid waste or any other substance, which if discharged to the MS4, would be a pollutant.
Los Angeles Stormwater and Urban Runoff Pollution Control Ordinance (Los Angeles Municipal Code [LAMC] Article 4.4). The Stormwater and Urban Runoff Pollution Control Ordinance contains requirements for construction activities and facility operations of development and redevelopment projects to comply with the requirements of the SUSMP, integrate low impact development practices and standards for stormwater pollution mitigation, and maximize open, green and pervious space on all developments and redevelopments consistent with the City's landscape ordinance and other related requirements in the Development BMPs Handbook. Provisions include prohibitions of illicit discharges, illicit connections, and spills, dumping and disposals to the MS4; pollutant control requirements from sites of industrial activities; and requirements for construction activity stormwater measures. The Ordinance also promulgates requirements for stormwater BMPs, which include the following:

- For parking lots with more than 25 spaces, BMPs must be implemented to reduce the discharge of pollutants to the MEP.
- For other premises exposed to stormwater, BMPs, if they exist, or other steps shall be used to reduce the discharge of pollutants to the MEP. This includes the removal and lawful disposal from all parts of the premises exposed to stormwater of any solid waste or any other substance, which if discharged to the MS4, would be a pollutant. The primary purpose of zoning is to segregate uses that are thought to be incompatible; in practice, zoning is used as a permitting system to prevent new development from harming existing residents or businesses and to preserve the "character" of a community. With respect to hydrology hazards, the City implements zoning ordinances to ensure safe construction practices.

Any proposed drainage improvements within the street right of way or any other property owned by, to be owned by, or under the control of the City requires the approval of a B-permit (LAMC Section 62.105). Under the B-permit process, storm drain installation plans are subject to review and approval by the City of Los Angeles Department of Public Works (LADPW), Bureau of Engineering (BOE). Additionally, any connections to the City’s storm drain system from a property line to a catch basin or a storm drain pipe requires a storm drain permit from the BOE.

Low Impact Development (LID) Ordinance, City of Los Angeles. The LID Ordinance was approved on October 7, 2011. The intent of the ordinance is to expand the applicability of the existing Standard Urban Stormwater Mitigation Plan requirements. It provides stormwater and rainwater LID strategies for all projects that require building permits in order to maintain or restore the natural hydrologic character of a development site, reduce off-site runoff, improve water quality, and provide groundwater recharge.

Los Angeles Specific Plan for the Management of Flood Hazards (Specific Plan). The City of Los Angeles has an ordinance governing permit review and mitigation procedures for issuance of development permits in areas prone to flooding, mudflow, or coastal inundation. The City’s Specific Plan for the Management of Flood Hazards (Specific Plan) was originally established by Ordinance No. 154,405, and amended most recently in July 1998 by Ordinance No. 172,081. The Ordinance No. 172,081 designates the City Engineer as the Flood Hazard Mitigation Coordinator for the City. The “Flood Hazard Management Specific Plan” (also referred to as the City of LA Floodplain Management Program) also specifies the responsibilities of City agencies that process the permits to ensure consistency with applicable FEMA requirements for NFIP coverage. Mitigation measures include relocation of structures within a property, increased base elevation, additional structural reinforcement, anchoring, and installation of protective barriers. A permit can be denied if mitigation is deemed insufficient to protect human life.

City of Los Angeles Local Hazard Mitigation Plan (LHMP). The City approved its Local Hazard Mitigation Plan in 2005. The plan identifies potential natural and human-caused hazards, and potential scenarios and estimated losses, addresses existing and proposed mitigation policies, programs and projects, and response programs.\(^{18}\)

City of Los Angeles General Plan, Safety, Conservation, and Framework Elements. The intent of the Conservation Element is the conservation and preservation of natural resources. Policies of the Conservation Element address the effect of erosion on such natural resources as beaches, watersheds, and watercourses. The Safety Element provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster, and initial recovery from a natural disaster. The policies of the Safety Element reflect the comprehensive scope of the City’s Emergency Operations Organization, which is tasked with integrating the City’s emergency operations into a single operation. The General Plan Framework Element is a more general, long-term, programmatic Element. The Framework Element is a long-range, Citywide, comprehensive growth strategy. The policies in the Framework Element address infrastructure and public service systems, many of which are interrelated, and all of which support the City's population and economy. Relevant objectives and policies of the Safety, Conservation, and Framework Elements related to hydrology and water quality are listed on Table 4.9-4.

<table>
<thead>
<tr>
<th>TABLE 4.9-4: RELEVANT GENERAL PLAN WATER QUALITY OBJECTIVES AND POLICIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective/Policy</td>
</tr>
<tr>
<td>SAFETY ELEMENT – HAZARD MITIGATION</td>
</tr>
<tr>
<td>Policy 1.1.5</td>
</tr>
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<td>Policy 1.1.6</td>
</tr>
<tr>
<td>SAFETY ELEMENT – EMERGENCY RESPONSE (MULTI-HAZARD)</td>
</tr>
<tr>
<td>Policy 2.1.2</td>
</tr>
<tr>
<td>SAFETY ELEMENT – DISASTER RECOVERY (MULTI-HAZARD)</td>
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<tr>
<td>Policy 3.1.2</td>
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<td>CONSERVATION ELEMENT – EROSION</td>
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<td>Policy 2</td>
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<td>CONSERVATION ELEMENT – OCEAN</td>
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<tr>
<td>Policy 1</td>
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<td>Policy 2</td>
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<td>Policy 3</td>
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<tr>
<td>FRAMEWORK ELEMENT – CHAPTER 9 INFRASTRUCTURE AND PUBLIC SERVICES</td>
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<td>Policy 9.3.2</td>
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<tr>
<td>Objective 9.5</td>
</tr>
<tr>
<td>Policy 9.5.1</td>
</tr>
<tr>
<td>Policy 9.5.2</td>
</tr>
</tbody>
</table>

\(^{18}\) City of Los Angeles Department of City Planning, *City of Los Angeles Hazard Mitigation Plan, Executive Summary*, 2005.
### TABLE 4.9-4: RELEVANT GENERAL PLAN WATER QUALITY OBJECTIVES AND POLICIES

<table>
<thead>
<tr>
<th>Objective/Policy</th>
<th>Objective/Policy Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy 9.5.3</td>
<td>Implement programs to correct any existing deficiencies in the stormwater collection system.</td>
</tr>
<tr>
<td>Policy 9.5.4</td>
<td>Ensure that the City's drainage system is adequately maintained.</td>
</tr>
<tr>
<td>Objective 9.6</td>
<td>Pursue effective and efficient approaches to reducing stormwater runoff and protecting water quality.</td>
</tr>
<tr>
<td>Policy 9.6.1</td>
<td>Pursue funding strategies which link the sources of revenues for stormwater system improvement to relevant factors including sources of runoff and project beneficiaries.</td>
</tr>
<tr>
<td>Policy 9.6.2</td>
<td>Establish standards and/or incentives for the use of structural and non-structural techniques which mitigate flood-hazards and manage stormwater pollution.</td>
</tr>
<tr>
<td>Policy 9.6.3</td>
<td>The City's watershed-based approach to stormwater management will consider a range of strategies designed to reduce flood hazards and manage stormwater pollution. The strategies considered will include, but not necessarily be limited to: a. Support regional and City programs which intercept runoff for beneficial uses including groundwater recharge; b. Protect and enhance the environmental quality of natural drainage features; c. Create stormwater detention and/or retention facilities which incorporate multiple-uses such as recreation and/or habitat; d. On-site detention/retention and reuse of runoff; e. Mitigate existing flood hazards through structural modifications (floodproofing) or property by-out; f. Incorporate site design features which enhance the quality of off-site runoff; and g. Use land use authority and redevelopment to free floodways and sumps of inappropriate structures which are threatened by flooding and establish appropriate land uses which benefit or experience minimal damages from flooding.</td>
</tr>
<tr>
<td>Policy 9.6.4</td>
<td>Proactively participate in inter-agency efforts to manage regional water resources, such as the Santa Monica Bay Restoration Project, the Los Angeles River Master Plan, the Los Angeles River Parkway Project and the Los Angeles County Drainage Area Water Conservation and Supply Feasibility Study.</td>
</tr>
<tr>
<td>Objective 9.7</td>
<td>Continue to develop and implement management practices based stormwater program which maintains and improves water quality.</td>
</tr>
<tr>
<td>Policy 9.7.1</td>
<td>Continue the City's active involvement in the regional NPDES municipal stormwater permit.</td>
</tr>
<tr>
<td>Policy 9.7.2</td>
<td>Continue to aggressively develop and implement educational outreach programs designed to foster an environmentally-aware citizenry.</td>
</tr>
<tr>
<td>Policy 9.7.3</td>
<td>Investigate management practices which reduce stormwater pollution to identify technically feasible and cost effective-approaches, through: a. Investigation of sources of pollution using monitoring, modeling and special studies; b. Prioritization of pollutants and sources; c. Conducting research and pilot projects to study specific management practices for the development of standards; and d. Developing requirements which establish implementation standards for effective management practices.</td>
</tr>
<tr>
<td>Objective 9.9</td>
<td>Manage and expand the City's water resources, storage facilities, and water lines to accommodate projected population increases and new or expanded industries and businesses.</td>
</tr>
<tr>
<td>Policy 9.9.3</td>
<td>Protect existing water supplies from contamination, and clean up groundwater supplies so those resources can be more fully utilized.</td>
</tr>
<tr>
<td>Policy 9.9.4</td>
<td>Work to improve water quality and reliability of supply from the State Water Project and other sources.</td>
</tr>
<tr>
<td>Policy 9.9.5</td>
<td>Maintain existing rights to groundwater and ensure continued groundwater pumping availability.</td>
</tr>
<tr>
<td>Objective 9.11</td>
<td>Ensure, to the maximum extent possible, the continued provision of water capacity, quality and delivery after an earthquake or other emergency.</td>
</tr>
<tr>
<td>Policy 9.11.1</td>
<td>Provide for the prompt resumption of water service with adequate quantity and quality of water after an emergency.</td>
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**Water Quality Compliance Master Plan for Urban Runoff (WQCM) 2009.** In 2009, the City of Los Angeles adopted the WQCM. This document is a 20-year strategy for clean stormwater and urban runoff in the City of Los Angeles and to meet all water quality regulations for the City’s rivers, lakes, and coastal waters. The Master Plan provides an overview of the existing status of urban runoff management in the City, including a description of watersheds in the City, urban runoff pollutant sources, regulatory requirements for water quality, existing watershed management, and plans for compliance with regulatory requirements. In addition, the Master Plan plans for the future of urban runoff management in the City and discusses three initiatives: Water Quality Management Initiative, Citywide Collaboration Initiative, and Outreach Initiative. Lastly, the Plan contains a financial outlook that evaluates current and future revenues, provides an estimate of the costs needed for implementing the strategies proposed, and presents opportunities for funding.

**THRESHOLDS OF SIGNIFICANCE**

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Plans would have a significant impact related to hydrology and water quality if they would:

- Violate any water quality standards or waste discharge requirements;
- 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);
- 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;
- 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;
- 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;
- Otherwise substantially degrade water quality;
- 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;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Expose people or structures to a significant risk from inundation by seiche, tsunami, or mudflow.

The following threshold from the City of Los Angeles CEQA Thresholds Guide (2006) supplements the Appendix G thresholds. Implementation of the Proposed Plans would have a significant impact related to hydrology and water quality if they would:

- Cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological species.
METHODOLOGY

The terminology and methodology used to evaluate the significance of potential impacts from the implementation of the Proposed Plans are described below.

Baseline information for the analysis was compiled from a review of data and reports published by state agencies, environmental documents for projects in the vicinity, as well as information compiled and evaluated by the City of Los Angeles in conjunction with its stormwater management and hazard mitigation programs. The result of the effort is a general and qualitative analysis of the types of hydrologic and water quality changes that could be expected relative to the proposed types and locations of land use changes and related zoning.

The analysis of water quality impacts identifies the types of pollutants potentially associated with construction and operation of the proposed project and considers their effects on water quality. Consideration is given to BMPs, which would serve to minimize pollutants in stormwater runoff. Further, the proposed project’s consistency with relevant regulatory permits/requirements is evaluated to demonstrate how compliance would protect water quality.

Independent of the CEQA process, there is a comprehensive regulatory framework implemented at the state and city level to reduce the impacts of effects related to storm drainage, urban pollutants, and flood hazards. Compliance with these regulations is required, not optional. Compliance must be demonstrated by the project proponent to have been incorporated in the project’s design before permits for project construction would be issued. Based upon the comprehensiveness of the regulations and the requirement that compliance must be demonstrated to have been incorporated in the project’s design before permits are issued, the assumption that compliance with all applicable laws, regulations, and standards is reasonable. Therefore, the analysis presented herein assumes compliance with all applicable laws, regulations, and standards.

The impact analysis for hydrology and water quality was based on several factors, including the policies and land uses of the Proposed Plans, the degree to which existing land uses in the CPAs would change, and the thresholds of significance for hydrology and water quality. This methodology does not depend on population nor employment data. The use of other population or employment baselines would not change the analysis since the policies and land uses of the Proposed Plans, on which this analysis is based, remain the same.

IMPACTS

Impact 4.9-1 Would implementation of the Proposed Plans violate any water quality standards or waste discharge requirements? This impact is less than significant.

While there are hydrology and water quality resources of concern within the CPAs, they are subject to the federal, state, and local standards and regulations mentioned above. The Proposed Plans and their implementing ordinances do not contain any specific guidelines or changes that would violate any water quality standards or waste discharge requirements.

Due to the existing urbanized nature of the CPAs, the rate and volume of stormwater runoff as an indirect result of the Proposed Plans would not result in a substantial increase in stormwater flows to the City’s system that discharges to Compton Creek, Ballona Creek, the Dominguez Channel, or the Los Angeles River. In addition, because the overall land use patterns of the CPAs would remain relatively unchanged, this would tend to limit potential changes in the types of pollutants in stormwater runoff, compared to existing conditions. Since only a small percentage of the land in the CPAs is vacant or undeveloped, any new development in the CPAs, whether more intense than existing conditions or not, would not result in a substantial increase of impervious surfaces contributing to runoff.
In addition to federal and state regulations, the City of Los Angeles has comprehensive standard requirements for development to ensure that violations of water quality standards do not occur. For example, the City enforces its SUSMP, a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The goals and objectives of the SUSMP are achieved through the use of best management practices or BMPs that attempt to manage runoff water quality. As required by the SUSMP, all development projects (as applicable), including projects that could be constructed in the CPAs, would be required to implement operational BMPs to control release of pollutants in stormwater runoff. The SUSMP identifies the types and size of private development projects that are subject to these requirements. Required elements of the SUSMP include provisions for:

- Peak stormwater runoff discharge rates
- Conservation of natural areas
- Minimization of stormwater pollutants of concern
- Protection of slopes and channels
- Storm drain system stenciling and signage
- Properly designed outdoor material storage areas
- Properly designed trash storage areas
- Proof of ongoing BMP maintenance
- Design standards for structural or treatment control BMPs
- Provisions for individual priority project categories
- Limitations on use of infiltration BMPs

Site design or planning management BMPs would be used to minimize runoff from new development. Source control BMPs are usually the most effective and economical in preventing pollutants from entering storm and non-storm runoff. Treatment Control (or structural) BMPs involve physical treatment of the runoff, usually through structural means. Requirements of the SUSMP are enforced through the City’s plan approval and permit process and all new development projects are subject to City inspection. Compliance with the SUSMP and LID requirements would ensure that development projects occurring under the Proposed Plans do not violate any water quality standards or discharge requirements or otherwise substantially degrade water quality.

Furthermore, discharges associated with the Proposed Plans would not create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body. Implementation of the Proposed Plans would not compromise the beneficial uses of nearby waterbodies, or the facilities which serve those beneficial uses, nor would it impair the waters of the state in a way that creates a hazard to public health or diminishes the community enjoyment of property.

Compliance with federal and state regulations, as well as the City’s standard requirements and the proper implementation of LID and BMPs, would serve to reduce impacts resulting from future development in the CPAs due to implementation of the Proposed Plans. Furthermore, the Proposed Plans do not introduce any features that would preclude implementation of, or alter these policies and procedures in any way. Therefore, implementation of the Proposed Plans would not violate any water quality standards or waste discharge requirements, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impact after Mitigation

Less than significant under the Proposed Plans without mitigation.
Impact 4.9-2 Would implementation of the Proposed Plans 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)? This impact is less than significant.

The South and Southeast Los Angeles CPAs are located within the geographic boundaries of the Central Basin of the Los Angeles Coastal Plain Groundwater Basin, as shown in Figure 4.9-1. Groundwater from the Los Angeles Coastal Plain Groundwater Basin is not a substantial source of water for the region. Implementation of the Proposed Plans would not involve direct groundwater withdrawal or injection that would create a net deficit in aquifer volume, yields or change the rate or direction of groundwater. In addition, implementation of the Proposed Plans would not result in a demonstrable or sustained reduction of groundwater recharge capacity, such that there would be a lowering of the local groundwater table level.

The CPAs are highly urbanized and covered largely by non-permeable surfaces (buildings, road, parking lots, etc.) that interfere with groundwater recharge. Therefore, the CPAs are not significant areas for groundwater recharge. Construction of future development in the CPAs as a result of implementation of the Proposed Plans, whether more intense than existing conditions or not, would not result in a substantial increase in impervious surfaces that would further impact groundwater recharge. Further, while construction activities may use water provided by the Los Angeles Department of Water and Power for varying purposes, the duration of such activities and the amount of water used would be limited, and does not have the potential to deplete groundwater supplies. Use of this water for construction would not reduce the yields of adjacent wells or well fields, or adversely change the rate or direction of flow of groundwater.

As described in Impact 4.9-1, future development would be subject to the City’s stormwater quality BMPs that aid in ensuring that surface water is effectively maintained so that stormwater infiltration, if any, would not represent a substantial risk to groundwater quantity or quality. In addition, compliance with the City’s Stormwater and Urban Runoff Pollution Control Ordinance and NPDES GCASP permit requirements is mandatory. These regulations would help to ensure that any construction activities associated with future development would not adversely affect groundwater by utilizing the added protections of SWPPP design and implementation. The stormwater quality BMPs would aid in ensuring that surface water is effectively maintained so that stormwater infiltration, if any, would not represent a substantial risk to groundwater quantity or quality. Furthermore, implementation of the Proposed Plans would not have a significant impact on groundwater level in a way that would change potable water levels sufficiently to reduce the ability of a water utility to use the groundwater basin for:

- public water supplies
- conjunctive use purposes
- storage of imported water
- supply for summer/winter peaking
- response to emergencies and drought

Additionally, the proposed South Los Angeles CPIO and Southeast Los Angeles CPIO establish mandatory regulations for future development in Active Change areas that would require projects to provide landscaping within setback areas and parking lots, which would provide a means for infiltrating or detaining stormwater and would have a beneficial impact on groundwater recharge. Implementation of the Proposed Plans would not interfere with public uses of the groundwater supply, reduce the water yields of adjacent wells or well fields, adversely change the rate or direction of groundwater flow, or reduce groundwater recharge capacity. No other activities would occur as a result of the Proposed Plans that would have an effect on groundwater. Compliance with applicable water quality and stormwater regulations would ensure that impacts would remain less than significant. Therefore impacts related to groundwater would be less than significant.
Mitigation Measures

No mitigation measures are required.

Level of Significance of Impact after Mitigation

Less than significant under the Proposed Plans without mitigation.

Impact 4.9-3 Would implementation of the Proposed Plans 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? This impact is less than significant.

The CPAs are highly urbanized areas that do not contain any streams or rivers aside from the channelized Compton Creek in Southeast Los Angeles, which is a tributary of the Los Angeles River. The Proposed Plans do not propose to alter the course of a stream, river or the Compton Creek flood control channel. Therefore, the Proposed Plans would not alter the existing drainage pattern of the CPAs through the alteration of the course of a stream or river that would result in erosion or siltation.

The Proposed Plans would create new housing, population, and employment capacity in targeted areas, primarily transit-oriented development (TOD) areas. Other proposed land use changes would create consistency between existing and surrounding land uses, zoning and General Plan designations and/or serve to preserve and enhance certain commercial corridors, targeted residential neighborhoods, and industrial areas. Future development within the Active Changes areas of the Proposed Plans would occur primarily as infill on previously developed or, to a lesser extent, vacant sites. Because the CPAs are highly urbanized and covered largely by paved and other non-permeable surfaces, future development within these areas, regardless of building densities and lot coverage, would not result in a substantial increase in non-permeable surfaces such that surface drainage patterns would cause erosion or siltation.

Grading for new structures that would be a reasonably foreseeable effect of implementing the Proposed Plans is expected to be minimal, consisting of grading for foundations, building pads, access roads, and utility trenches in areas that are already developed. Because the Proposed Plans would otherwise continue to allow the development of the CPAs as envisioned by the existing Community Plan, such development could require grading on individual parcels, which could result in small, localized changes in surface drainage patterns that could cause increased erosion potential when soils are exposed during construction. However, as previously explained, all new development projects are subject to the City’s SUSMP and grading requirements as part of the building permit process for all new development, including by-right projects. The SUSMP requirements integrate Low Impact Development practices and standards for the prevention of stormwater pollution mitigation from surface water drainage, including precautions for erosion and sedimentation, and maximize open, green and pervious space on all development consistent with the City's landscape ordinance and other related requirements. Further, all earthwork and grading activities require grading permits from the Department of Building and Safety that include requirements and standards designed to limit potential impacts to acceptable levels. All on-site grading and site preparation must comply with applicable provisions of LAMC Chapter IX, Division 70, which addresses grading, excavations, and fills, and the recommendations of a site-specific geotechnical report. The City requires the preparation of a site-specific geotechnical report to evaluate soils issues for new development. Additionally, all applicable projects must comply with LAMC Article 4.4, Section 664.72, which governs pollutant control requirements and construction activity. Compliance with these precautions within the LAMC would reduce erosion and siltation potential within the CPAs.

Furthermore, the Regional Water Quality Control Board (RWQCB), through administration of the NPDES permit process, works to reduce the effects of sedimentation to receiving water bodies. The NPDES permit
sets erosion control standards and requires implementation of nonpoint source control of surface drainage through the application of a number of BMPs to decrease the effects of erosion and sedimentation associated with grading. These BMPs are meant to reduce the amount of constituents, including eroded sediment, that enter streams and other water bodies. A SWPPP, as required by the RWQCB as part of NPDES permitting, describes the stormwater BMPs (structural and operational measures) that would control the quality and quantity of stormwater runoff for any project that would potentially cause sedimentation to a receiving water body. NPDES permit requirements would ensure that future development within the CPAs would not result in changes to surface drainage patterns that could cause increased erosion or siltation.

Compliance with state NPDES permit and applicable LAMC regulatory requirements, in combination with the City’s standard grading and building permit requirements and the application of BMPs would minimize any potential water quality impacts from erosion and siltation. Therefore, implementation of the Proposed Plans would not cause changes in surface drainage patterns and surface water bodies in a manner that could cause erosion or siltation, and impacts related to erosion and siltation would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

Less than significant under the Proposed Plans without mitigation.

Impact 4.9-4 Would implementation of the Proposed Plans 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? This impact is less than significant.

As described above, there are no streams or rivers located within the South and Southeast Los Angeles CPAs. As such the Proposed Plans will not alter the existing drainage pattern of the CPAs through the alteration of the course of a stream or river. The Proposed Plans would maintain existing land uses in residential neighborhoods in order to preserve the existing neighborhood character, and open space areas in the CPAs would be preserved. The existing drainage patterns of open space would remain unchanged. The Proposed Plans would create new housing, population, and employment capacity in targeted areas, primarily transit-oriented development (TOD) areas. Future development would be concentrated in areas of the CPAs containing impervious surfaces; therefore, implementation of the Proposed Plans would result in a negligible increase in impervious surfaces compared to existing conditions. Little, if any, change in stormwater runoff volume is anticipated.

The City would also ensure that sufficient drainage capacity is available through building permit application review and approvals. The City has standard procedures governing permit review and mitigation procedures for areas prone to flooding. With implementation of the existing City of Los Angeles standard procedures, the Proposed Plans would not lead to a substantial increase in surface runoff resulting in flooding as a consequence of increased capacity for development.

Compliance with applicable water quality and stormwater regulations would ensure that the Proposed Plans would not cause a substantial increase in the peak flow rates or volumes of stormwater runoff that would cause on-site or off-site flooding. Therefore, impacts related to surface runoff that would result in flooding are less than significant.

Mitigation Measures

No mitigation measures are required.
Level of Significance of Impacts after Mitigation

Less than significant under the Proposed Plans without mitigation.

Impact 4.9-5  Would implementation of the Proposed Plans 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?  This impact is less than significant.

Because the CPAs are highly urbanized, future development within the CPAs, including the Active Changes Areas (which would be expected to result in the most development activity based on their allowance for increased density and intensity), would occur primarily as infill on previously developed sites containing impervious surfaces.  Therefore, flows from areas of future development are already accounted for in system capacity.  Little change in stormwater runoff to local waterways is anticipated. Implementation of the Proposed Plans would not substantially reduce or increase the amount of surface water; or result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.  Stormwater runoff within the South Los Angeles CPA would continue to be directed toward Ballona Creek and stormwater runoff within the Southeast Los Angeles CPA would continue to be directed toward Compton Creek via storm drains, curbs and gutters (street flows), and urban sheet flow.

Implementation of the Proposed Plans would not affect the rate or change the direction of movement of existing contamination; expand the area affected by contaminants; result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion); or cause regulatory water quality standards at an existing production well to be violated, as defined in the California Code of Regulations (CCR), Title 22, Division 4, and Chapter 15 and the Safe Drinking Water Act.  New development in CPAs would result in a negligible increase in impermeable surfaces compared to existing conditions.  Nonetheless, new development would have the potential to minimally increase the amount of impermeable surfaces in the CPA, hence increasing the amount of water reaching the storm drain system and possibly the groundwater supply.  However, on-site improvements incorporated into individual project design according to existing City standards and new CPIO requirements for permeable services would be implemented to help maintain system capacity.  As previously described, compliance with the City’s LID Ordinance and SUSMP through site design or planning management BMPs would minimize runoff from new development and prevent sediment and other pollutants from entering the storm drain system.

As a result, the Proposed Plans would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.  Additionally, due to the highly urbanized nature of the CPAs, groundwater recharge is anticipated to be negligible in the CPAs. Compliance with applicable water quality and stormwater regulations, including stormwater BMPs as part of the SUSMP, would ensure that impacts would remain less than significant.  Therefore, the impacts related to stormwater drainage and polluted runoff are less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

Less than significant under the Proposed Plans without mitigation.
Impact 4.9-6 Would implementation of the Proposed Plans otherwise substantially degrade water quality? This impact is less than significant.

Water quality is well regulated at the federal, state, and local level as explained in the Regulatory Framework section. At the local level, future development within the CPAs would be subject to the City’s stormwater quality BMPs that aid in ensuring that surface water is effectively maintained so that stormwater infiltration, if any, would not represent a substantial risk to groundwater quantity or quality. In addition, compliance with the City’s Stormwater and Urban Runoff Pollution Control Ordinance and NPDES GCASP permit requirements is mandatory. These regulations would help to ensure that any construction activities associated with future development would not adversely affect groundwater by utilizing the added protections of SWPPP design and implementation. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater, as well as non-stormwater discharges. Furthermore, the requirements of the SUSMP are enforced through the City’s plan approval and permit process and all new development projects are subject to City inspection. All applicable projects must comply with LAMC Article 4.4, Section 64.72, which governs pollutant control requirements and construction activity requirements.

In addition to federal and state regulations, compliance with the LAMC would ensure that any construction occurring in the CPAs as a result of the Proposed Plans does not violate any water quality standards or discharge requirements or otherwise substantially degrade water quality. Therefore, the Proposed Plans would not substantially degrade the existing water quality of the CPAs and their surroundings. Impacts related to water quality would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

Less than significant under the Proposed Plans without mitigation.

Impact 4.9-7 Would implementation of the Proposed Plans 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? This impact is less than significant.

The City of Los Angeles is subject to a wide range of flood hazards, including those caused by intense storms, earthquakes, and failure of man-made structures. Storm conditions, topography, drainage patterns, and the adequacy of the stormwater system combine under certain conditions to create areas of flooding. The City of Los Angeles participates in the National Flood Insurance Program (NFIP) and provides emergency response services for flood events. The City’s hazard mitigation planning and emergency response programs would continue to be implemented to reduce potential losses. Within the city, 100-year and 500-year flood hazard zones generally correspond to natural river, stream, and/or creek channels. Figure 4.9-4 above, shows the location of 100-year and 500-year flood hazard areas within the CPAs.

Within the Southeast Los Angeles CPA, there are no areas designated as 100-year flood plains. As such, implementation of the proposed Southeast Los Angeles Community Plan will not place housing within a 100-year flood plain. Within the South Los Angeles CPA, there is a 100-year flood plain which intersects the CPA east of Van Ness Avenue, between Florence and Slauson Avenues. However, any new development that occurs in this 100-year flood plain would be subject to the restrictions and requirements as part of the City’s existing permitting process.

Prior to any building activity, the City reviews FEMA flood maps to verify whether the development site is within the current FEMA 100-year flood plain. Additionally, a detailed computerized flood hazard analysis
would be required in accordance with current standards set forth by FEMA. If the detailed analysis shows that the proposed development area is outside of the 100-year flood plain and floodway, new development could be constructed with no further restrictions. If the analysis shows that the proposed development area is within the 100-year flood plain or floodway, appropriate flood plain management measures would be required to be incorporated into the design of all new buildings. Flood plain management measures include, but are not limited to, constructing new residences so that the lowest floor is at least one foot above the 100-year flood level, and requiring nonresidential development in flood prone areas to be anchored and flood-proofed to prevent damage from a 100-year flood or elevated to at least one foot above the 100-year flood level.

To the extent this appendix G question asks for the lead agency to analyze impacts to future users or residents of the CPAs, that is not a CEQA impact. Based on the analysis above and below, the Proposed Plans would not exacerbate an existing condition resulting in an impact.

Southeast Los Angeles. Implementation of the Proposed Plan for the Southeast Los Angeles CPA would not place housing within a 100-year flood hazard area and there would be no impact.

South Los Angeles Community Plan. Compliance with the existing regulatory requirements related to flood plain management previously discussed would ensure that the proposed South Los Angeles Community Plan would not place housing within a flood hazard area without incorporating proper floodplain management measures. Therefore, implementation of the Proposed Plan for the South Los Angeles CPA would result in a less-than-significant impact related to placing housing within a 100-year flood hazard area.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

Less than significant under the Proposed Plans without mitigation.

Impact 4.9-8 Would implementation of the Proposed Plans place within a 100-year flood hazard area structures which would impede or redirect flood flows? This impact is less than significant.

Southeast Los Angeles. As mentioned above, there are no areas designated as 100-year flood plains within the Southeast Los Angeles CPA. Therefore, implementation of the proposed Southeast Los Angeles Community Plan would not place structures which would impede or redirect flood flows within a 100-year flood hazard area, and there would be no impact related to structures impeding or redirecting flood flows in a 100-year flood hazard area.

South Los Angeles. A 100-year flood plain intersects the South Los Angeles CPA east of Van Ness Avenue, between Florence and Slauson Avenues. However, the implementation of the proposed South Los Angeles Community Plan is not foreseeably going to result in development that could impede or redirect flood flows, as the area is substantially developed. Any new development that occurs within this flood hazard area would be subject to restrictions and requirements as part of the City’s existing permitting process, previously described. Compliance with these existing regulatory requirements related to flood zones would ensure the proposed South Los Angeles Community Plan would not place structures that would impede or redirect flood flows within a flood hazard zone without incorporating proper mitigation measures. Therefore, implementation of the proposed South Los Angeles Community Plan would result in less-than-significant impacts related to structures impeding or redirecting flood flows in a 100-year flood hazard area.
Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

Impacts related to structures in a 100-year flood hazard area would be less than significant under the Proposed Plans without mitigation.

Impact 4.9-9 Would implementation of the Proposed Plans expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? There would be no impact.

There are no levees, dams or reservoirs within the CPAs that would present a potential risk of loss, injury or death involving flooding due to failure. Dam inundation is defined as the flooding that occurs as the result of structural failure of a dam. Structural failure may be caused by seismic activity. Seismic activity may also cause inundation by the action of a seismically induced wave, which overtops the dam without causing structural failure; this action is referred to as a seiche. The most proximate dam to the CPAs is the Pacoima Dam, located 34 miles north of the CPAs. The Pacoima Dam has recently undergone extensive seismic upgrades. Failure of the dam during a catastrophic event, such as a severe earthquake, is considered a very unlikely event. Additionally, the effect of flooding due to dam failure on the CPAs would be minimal due to the distance of the CPAs from the dam. No other large bodies of water are present in the immediate vicinity of the CPAs.

Excessive stormwater runoff is the cause of most flooding in the Los Angeles Area. The major flood control facilities in the vicinity of the South Los Angeles CPA are Ballona Creek (located approximately six miles west), the Dominguez Channel (located approximately one mile south), and Compton Creek (located approximately one mile east). All runoff from the South Los Angeles CPA is ultimately directed to these local flood control channels where it then flows west into the Pacific Ocean. The major flood control facility within the Southeast Los Angeles CPA is Compton Creek, a channelized tributary of the Los Angeles River. The land use changes included in the proposed project would not structurally change land use and drainage patterns within the CPAs. As discussed in Existing Settings, the estimated percent of land that is covered in impervious surfaces within the watersheds of the CPAs are as follows: Los Angeles River Watershed, 32 percent; Ballona Creek Watershed, 40 percent; and Dominguez Watershed, 62 percent. Furthermore, due to the existing highly developed nature of the CPAs, the Proposed Plans would not cause a substantial increase in the peak flow rates or volumes of stormwater runoff that would cause flooding. As described previously, compliance the City’s SUSMP and the proper implementation of BMPs, would serve to reduce impacts from future development resulting from implementation of the Proposed Plans. With conformance to the City’s existing standard procedures, the Proposed Plans would not lead to increased flooding as a consequence of increased capacity for development in the CPAs, including the Active Change areas.

Implementation of the Proposed Plans would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No dams or levees are located in or near the CPAs. No impact would occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

No impacts would occur under the Proposed Plans.
Impact 4.9-10 Would implementation of the Proposed Plans expose people or structures to a significant risk from inundation by seiche, tsunami, or mudflow? There is no impact.

Aside from Compton Creek in Southeast Los Angeles, no other large bodies of water are present within the CPAs. The Compton Creek has been channelized as a flood control measure draining storm water from the Southeast Los Angeles CPA and directing it safely to the Pacific Ocean. The creek is not susceptible to seiche events during strong earthquakes and is not a potential source of inundation. The CPAs are located more than five miles inland from the Pacific Ocean. While the General Plan Safety Element identifies most of the CPAs as being located within an inundation zone, the CPAs are not located within a Tsunami Hazard Mitigation Zone, and inundation by seiche, a surface wave created when a body of water is shaken, is unlikely to occur. Therefore, implementation of the Proposed Plans would not expose people or structures to risk from seiche or tsunami, and there would be no impacts to the CPAs with respect to seiche and tsunami hazard.

The topography of the South and Southeast Los Angeles CPAs is generally flat. The amount of exposed soils in the CPAs is extremely limited due to its highly urbanized nature. Mudflows/mudslides originating from terrain in or near the CPAs are not likely and are not expected to pose a hazard in the future. Inundation by mudflow could not occur within the CPAs. Therefore, implementation of the Proposed Plans would not expose people or structures to risk from mudflow/mudslides, and there would be no impacts related to mudflow/mudslide.

To the extent this appendix G question asks for the lead agency to analyze impacts to future users or residents of the CPAs that is not a CEQA impact. Based on the analysis above, the Proposed Plans would not exacerbate an existing condition resulting in an impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

No impacts would occur under the Proposed Plans.

Impact 4.9-11 Would implementation of the Proposed Plans cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological species? This impact is less than significant.

As described in Impact 4.9-1, the Proposed Plans do not substantially change the overall land use patterns in the CPAs. As a result, new development in the CPAs, including the Active Changes areas, where the greatest amount of new development or redevelopment will foreseeably occur, would not result in large amounts of new impervious surfaces that would substantially alter existing drainage patterns in the CPAs, therefore resulting in flooding. Some changes in runoff could occur because the Proposed Plans could result in the construction of new development on vacant land. However, due to the highly urbanized nature of the CPA, the existence of vacant land is minimal and new development would occur primarily as infill on underutilized commercial or industrial lots. These changes would represent a negligible increase in impervious surfaces compared to existing conditions, and the runoff characteristics of the CPAs would remain unchanged. Therefore, little change in the volume of stormwater runoff that could potentially cause flooding is expected.

Future development that occurs as a result of the Proposed Plans would be subject to restrictions and requirements as part of the City’s existing permitting process, as previously described. Compliance with these standards would ensure that the Proposed Plans would not cause flooding during the projected 50-year storm event. Furthermore, future development within Active Change Areas would be subject to the development standards in the CPIOs, which would require projects to provide landscaping within setback
areas and parking lots, which could provide a means for infiltrating or detaining stormwater. Therefore, little change in stormwater runoff to the City’s storm drain system is expected.

The City of Los Angeles Bureau of Engineering oversees construction and maintenance of the City’s storm drain system, which is designed to provide sufficient capacity to manage up to at least a 50-year magnitude storm. The network of natural and constructed channels that convey stormwater flows, debris basins, pump plants, underground pipelines and catch basins are designed to handle an excess of water during localized street flooding or heavy rainfall. Los Angeles Municipal Code Section 17.05(M) prescribes performance standards for storm drain systems. Storm drains must be designed in conformance with standards approved by the City Engineer. Storm drain facilities that intercept and convey all runoff to a suitable point of disposal are required when runoff exceeds the limiting depth of street flow as determined by the City Engineer. Storm drains must be of sufficient capacity in all cases to prevent flooding of building sites from a storm of a 50-year frequency. Any future project facilitated by the implementation of the Proposed Plans would be required to demonstrate to the satisfaction of the City that appropriate capacity is available, and that storm drain facilities are designed to incorporate proper drainage design to the satisfaction of the City Engineer.

As a result of compliance with existing required regulations and the existing highly developed nature of the CPAs, the Proposed Plans would not cause a substantial increase in the peak flow rates or volumes of stormwater runoff in a manner that would cause on-site or off-site flooding during a 50-year storm event or exceed the drainage capacity of existing or planned drainage systems. Therefore, impacts related to flooding during the projected 50-year developed storm event would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance of Impacts after Mitigation

Less than significant under the Proposed Plans without mitigation.

CUMULATIVE IMPACTS

The analysis of hydrology/water quality impacts resulting from the adoption and implementation of the Proposed Plans considers the effects of future growth and development throughout the geographic extent of the Proposed Plans. The cumulative context for the analysis of hydrology and water quality impacts is a function of the type of impact and geographic considerations. Some cumulative impacts may have a broad, regional context, while others may be limited by site-specific conditions or location. The cumulative context regarding flooding, drainage and water quality is described at the beginning of each analysis below.

Drainage and Localized Flooding Impacts. The cumulative context for storm drainage impacts is the extensive storm drain system operated by the City of Los Angeles, which is described in the Environmental Settings in this section. Stormwater flows from the CPAs currently combine with those from surrounding development in the greater Los Angeles area and are discharged into the storm drain system that conveys flows to Ballona Creek, Dominguez Channel, and Compton Creek. City Municipal Code Section 17.05(M) prescribes performance standards for storm drain systems, which would apply to cumulative development contributing flows to the system. Open space areas in the CPAs would be preserved, and future development would be concentrated in areas of the CPAs containing impervious surfaces; therefore, flows from areas of future development are already accounted for in system capacity. Potential projects that could be implemented under the Proposed Plans would not result in substantial increases in impervious surfaces due to the type of project (square feet or massing). Therefore, the rate and volume of stormwater flows from the Proposed Plans would represent a negligible contribution to system flows. Cumulative impacts related to
drainage and potential indirect effects on localized flooding would be less than significant and would not be cumulatively considerable.

**Impacts Related to 100-year Flood Hazard Areas.** The cumulative context for flood hazards is the corporate boundary of City of Los Angeles, which participates in the NFIP and provides emergency response services for flood events. Within the city, 100-year and 500-year flood hazard zones generally correspond to natural river, stream, and/or creek channels. Within the Southeast Los Angeles CPA, there are no areas designated as 100-year flood plains. In the South Los Angeles CPA, there is an area designated as a 100-year flood plain located east of Van Ness Avenue, between Florence and Slauson Avenues. New development within the CPAs, including the Active Change Areas of the South Los Angeles CPA, could change building footprints and result in changes in the number of people who could be exposed to flood hazard. Nevertheless, all projects are subject to restrictions and requirements as part of the City’s existing permitting process. A detailed analysis including review of FEMA flood maps would be conducted as part of the plan check process. Projects within the 100-year flood plain or floodway would be required to implement appropriate flood plain management measures in the design of new buildings. Compliance with these existing regulatory requirements would ensure the proposed South Los Angeles Community Plan would not place housing within a flood hazard area without incorporating proper measures and reducing this impact to less than significant. In addition, the City’s hazard mitigation planning and emergency response programs would also continue to be implemented to reduce potential losses. Additionally, impacts from the existing environment on future users or residents of the Proposed Plans are not a CEQA impact. There is no evidence that the Proposed Plans will exacerbate flood hazards. The Proposed Plans’ contribution to cumulative impacts related to housing or structures within a 100-year flood hazard area are less than significant and would not be cumulatively considerable.

**Water Quality Impacts.** All development within the Los Angeles River watershed is required to conform to applicable Waste Discharge Requirements (WDRs). Both the City of Los Angeles and Los Angeles County are required to impose these requirements. Stormwater runoff from cumulative development in the watershed, including development that could be facilitated by the Proposed Plans, could contribute to water quality impairments if measures are not implemented to minimize pollutant levels in runoff. However, as required by the SUSMP, all development projects, including projects that could be constructed in the CPAs (as applicable), are required to implement operational BMPs to control release of pollutants in stormwater runoff. Requirements of the SUSMP are enforced through the City’s plan approval and permit process, and all new development projects are subject to City inspection. Furthermore, all applicable projects must comply with LAMC Article 4.4, Section 64.72, which governs pollutant control requirements and construction activity requirements. Future development resulting from implementation of the Proposed Plans would occur primarily as infill on previously developed or vacant sites, the nature of which would not significantly change the types or amounts of pollutants in stormwater runoff. Therefore, cumulative water quality impacts would be less than significant and would not be cumulatively considerable.
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