

3.8 Hydrology and Water Quality

This section describes and evaluates potential impacts related to hydrology and water quality that could result from implementation of the Proposed Project. The section contains: (1) a description of the existing hydrology of the project site and the surrounding areas; (2) a description of the existing water quality of the surrounding areas; (3) a description of the regulatory setting related to hydrology and water quality; and (4) an analysis of the changes in hydrology and water quality associated with the implementation of the Proposed Project. No comments regarding hydrology and water quality were received in response to the NOP.

The analysis included in this section was developed based on information contained in the City of Inglewood General Plan, City of Inglewood Urban Water Management Plan, Golden State Water Company (GSWC) Urban Water Management Plan, Federal Emergency Management Agency Digital Flood Insurance Rate Maps, Groundwater Basin Master Plan, Enhanced Watershed Management Program for the Dominguez Channel Watershed, the Dominguez Watershed Management Master Plan, the project-specific Water Supply Assessment (Appendix J), and the project-specific Low Impact Development (LID) Report.

3.8.1 Environmental Setting

Surface Water

The City of Inglewood is located in the Dominguez Channel Watershed, within the Upper Dominguez Channel drainage area. The project site is located approximately one-mile north of the start of the Dominguez Channel. The Dominguez Channel Watershed encompasses approximately 133 square miles of land and water in the southern portion of the Los Angeles Basin.¹ Approximately 81 percent of the watershed has been developed. Residential development covers nearly 40 percent of the watershed, and another 41 percent is made up by industrial, commercial, and transportation uses. Overall, the watershed is approximately 61 percent impervious. Constructed waterways are predominant, however some small natural creeks are located in the hills of the Palos Verdes Peninsula. Since the majority of the watershed is urban, drainage is primarily conducted through an extensive network of underground storm drains.

The Dominguez Channel Watershed is designated as Hydrologic Unit 405.12 by the State Water Resources Control Board (SWRCB) and as the San Gabriel Hydrologic Unit by the Los Angeles Regional Water Quality Control Board (RWQCB).^{2,3} Water bodies within the hydrologic unit include the Dominguez Channel, Wilmington Drain, Torrance/Carson Channel (“Torrance

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- ¹ Los Angeles County Department of Public Works, 2018. *Dominguez Watershed*. Available: [HYPERLINK "https://dpw.lacounty.gov/wmd/watershed/dc/"]. Accessed October 2, 2018.
 - ² State Water Resources Control Board, 2014. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Available: [HYPERLINK "https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html"]. Accessed October 4, 2018.
 - ³ Los Angeles County Department of Public Works, 2004. *Dominguez Watershed Management Master Plan*. Available: [HYPERLINK "http://www.ladpw.org/wmd/watershed/dc/DCMP/masterplan.cfm"]. Accessed October 4, 2018. Page 1-3.

Lateral”), Machado Lake, Los Angeles and Long Beach Harbors, and Cabrillo Beach. Approximately 70 miles of the watershed drains to the 15.7-mile-long Dominguez Channel, which is the largest drainage feature in the watershed. The man-made Dominguez Channel begins at the City of Hawthorne and City of Inglewood boundary and discharges into the Los Angeles and Long Beach Harbors.⁴ The remaining portion of the watershed drains to retention basins for groundwater recharge; into Wilmington Drain, which empties into Machado Lake; or to the Los Angeles Harbor or Long Beach Harbor independently of the Dominguez Channel.

Flows in the Dominguez Channel Watershed are influenced by the volume of surface runoff, local groundwater, and rainfall. The Los Angeles Basin has a Mediterranean climate with moderate, dry summers and cool winters, consistent with coastal Southern California. Precipitation in the region occurs primarily as rain from November through March, with an average annual rainfall of 12.02 inches.⁵ In general, stormwater runoff within the City of Inglewood, including the project site, flows into the Los Angeles County Sanitation District (LACSD) sewer system.

Soil Drainage

The project site currently consists of both pervious and impervious surfaces, including commercial buildings, a hotel, a fast-food restaurant, and large portions of vacant land. The project site is currently made up of approximately 15 percent impervious surfaces and 85 percent pervious surfaces. Preliminary investigations of the project site indicate that the site’s native soil characteristics have poor drainage with a low infiltration rate.^{6,7} According to the Los Angeles County Guidelines for LID Stormwater Infiltration, minimum standard for soil infiltration is 0.3 inches per hour.⁸ Preliminary percolation tests were conducted at five selected locations at the project site. Based on the results, infiltration rates for the soils in the upper 10 feet ranged from 0.32 to 3.52 inches per hour. However, the subsurface native soils at the project site consist predominately of clayey soils with estimated infiltration rates lower than 0.3 inches per hour and with few or no connectivity to permeable soil horizons. Moreover, the underlying, predominantly clayey soils at the project site have never experienced saturation. These characteristics indicate that infiltration is largely infeasible at the project site, and that the project site currently provides very little groundwater recharge through percolation of soils.

⁴ City of Los Angeles Stormwater Program, 2018. *Dominguez Channel Watershed*. Available: [HYPERLINK "http://www.lastormwater.org/about-us/about-watersheds/dominguez-channel/"]. Accessed October 2, 2018.

⁵ City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 3-4.

⁶ AECOM, 2018. *Inglewood Basketball & Entertainment Center Project Low Impact Development (LID) Report*. August 23, 2018. Page 2.

⁷ AECOM, 2018. *Preliminary Geotechnical Investigation*. September 14, 2018. Page 34.

⁸ County of Los Angeles Department of Public Works, 2014. *Administrative Manual: Guidelines for Design, Investigation, and Reporting Low Impact Development Stormwater Infiltration*. Page 2.

Drainage Infrastructure

Arena Site

The arena site is the central part of the project site that would include the arena, public plaza, outdoor stage, community space, practice facility, retail/restaurants, employee access pavilion, and a parking structure. The arena site currently includes a restaurant, hotel, food warehouse, City water well, and vacant commercial uses. West 102nd Street crosses through the arena site in an east-west direction. Storm drainage facilities at this portion of the project site includes a 60-inch storm drain pipeline within South Prairie Avenue and a storm drain pipeline within West 102nd Street.⁹ In addition, an existing catch basin is located at the intersection of West 102nd Street and South Prairie Avenue.

Parking Garage Site and TNC Drop Off Area

The parking garage site is part of the project site west of the arena site that would include a parking garage and a bus staging/TNC drop-off area. The parking garage site is currently vacant, with West 101st Street crossing through the site in an east-west direction. This portion of the project site includes a 24-inch diameter storm drain pipeline that begins in West 101st Street, travels north to West Century Boulevard, and turns east along West Century Boulevard. This portion of the project site also utilizes the abovementioned 60-inch diameter storm drain pipeline within South Prairie Avenue.

Hotel and Surface Parking Site

This portion of the project site is located east of the arena site and would include a hotel and surface parking lot. The hotel and surface parking site is currently vacant. Storm drainage pipelines are located within South Doty Avenue. In addition, a 54-inch diameter storm drainage pipeline crosses under parcels to the west of the hotel and surface parking site, extending north through West Century Boulevard and south through West 102nd Street.

Well Relocation Site

The well relocation site is located east of the arena site and would contain a city-owned and operated potable water well. The well relocation site is currently vacant. This portion of the project site includes storm drainage pipelines within West 102nd Street and South Doty Avenue, detailed above.

Groundwater

The City of Inglewood is located over the West Coast Groundwater Basin (WCGB) and the Central Basin. While the project site is located only within the WCGB, the Proposed Project would be served by the GSWC, which produces water from both the WCGB and Central Basin. Characteristics of both the WCGB and Central Basin are detailed below.

⁹ AECOM, 2015. *Existing Conditions Plan Sheet C-101*.

West Coast Groundwater Basin

The WCGB is approximately 160 square miles and occupies 37 percent of the southwestern part of the Los Angeles Coastal Plain.¹⁰ The WCGB is bounded to the north by the Ballona Escarpment (an abandoned erosion channel from the Los Angeles River), on the east by the Newport-Inglewood fault zone and the Central Basin, and on the south and west by the Pacific Ocean.

Aquifers in the WCGB are generally confined and receive the majority of their natural replenishment from adjacent groundwater basins or from the Pacific Ocean through seawater intrusion.¹¹ Both the Newport-Inglewood Uplift fault and the Charnock fault are partial barriers to groundwater flow, causing differences in water levels on opposite sides of each fault system. Most of the groundwater in the WCGB is at an elevation below sea level due to historic over pumping, making maintenance of seawater barrier wells important to keep out intruding saltwater.

The WCGB is underlain by various geologic formations. Water bearing formations include Holocene, Pleistocene, and Pliocene age sediments.¹² The Silverado aquifer, underlying most of the Basin, is the primary production aquifer and yields between 80 to 90 percent of the groundwater extracted from the WCGB. Other aquifers within the WCGB include the Semiperched, Bellflower, Gaspur, Gardena, Gage, and Lynwood aquifers.¹³ The groundwater in the underlying aquifers is confined throughout most of the WCGB, however the Gage and Gardena aquifers are unconfined where water levels have dropped below the Bellflower aquifer. These aquifers merge with adjacent aquifers, particularly near the Redondo Beach area.

The WCGB has a total storage capacity of 6,500,000 acre feet (AF)¹⁴. Prior to the adjudication of groundwater rights in the early 1960s, annual pumping of the WCGB reached levels as high as 94,000 AF per year (AFY). Due to serious overdraft, water levels declined, groundwater was lost from storage, and seawater intruded into the aquifer. To remedy this problem, the courts adjudicated the basin to limit pumping, and the WCGB adjudication was set at 64,468 AFY. The City of Inglewood's adjudicated share of water rights is 4,449 AFY, and the GSWC's adjudicated share of water rights is 7,502 AFY. The total pumping of the WCGB was set higher than the natural replenishment amounts, creating an annual deficit known as the annual overdraft. In order to combat this, the Water Replenishment District of Southern California (WRD), which is the entity responsible for maintaining the WCGB, purchases and recharges additional water to make up for the overdraft.

¹⁰ City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-7.

¹¹ Water Replenishment District of Southern California, 2016. *Groundwater Basins Master Plan*. Available: [HYPERLINK "https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf"]. Accessed October 3, 2018. Page 1-4.

¹² City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-7.

¹³ California Department of Water Resources, 2004. *California's Groundwater Bulletin 118: Coastal Plan of Los Angeles County Groundwater Basin, West Coast Subbasin*.

¹⁴ City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-7.

The City of Inglewood and the GSWC own and operate wells that extract groundwater from the WCGB. The City of Inglewood currently produces groundwater from the WCGB via four active groundwater wells, Wells Number 1, 2, 4, and 6 [Note to City: The City’s UWMP states that Well Number 7 will be constructed in 2017 (documents show this well would be constructed on the project site). Was this well constructed, and if so what is the AFY produced from it? If not, should we refer to Well Number 7 at all?], that were constructed in 1974, 1974, 1990, and 2003, respectively. GSWC operates ten wells within their Southwest System, eight of which are located within the WCGB.¹⁵ **Table 3.8-1, WCBG Historical Well Production (AFY)**, below shows historical well production from the WCGB for both the City of Inglewood and the GSWC. Based on available data, groundwater pumped from the WCGB generally declined from 2011 to 2015 due to strong conservation efforts in response to a state-wide drought.¹⁶

**TABLE 3.8-1
 WCGB HISTORICAL WELL PRODUCTION (AFY)**

| Entity | 2011 | 2012 | 2013 | 2014 | 2015 |
|-------------------|--------|--------|--------|--------|-------|
| City of Inglewood | 2,383 | 2,761 | 1,843 | 1,879 | 1,763 |
| GSWC | 13,116 | 12,732 | 12,738 | 13,333 | 5,484 |
| Total | 15,499 | 15,493 | 14,581 | 15,212 | 7,247 |

SOURCE: City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-11.; Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*. Page 6-10.

[Note to City: Total of 7,247 AFY: this is a large decrease. Do we know why? The UWMP states the decline is due to strong conservation efforts, please confirm. Is there any updated information with 2016 and 2017?]

The City of Inglewood Well Number 6 is located within the project site and would be relocated as part of the Proposed Project. Well Number 6 was constructed in 2003 and has been experiencing declining pumping capacity over the years.¹⁷ **Table 3.8-2, Well Number 6 Historical Well Production (AFY)**, shows the City’s historical well production from Well Number 6. The well’s original recommended flow rate was 2,800 gallons per minute (gpm). The well pump was replaced in 2011 with a reduced flow of 1,400 gpm, however, water quality issues reduced the average day use to approximately 1,200 gpm (or approximately 1,550 AFY). Well Number 6 had been scheduled for rehabilitation to increase its capacity to 1,500 gpm in 2017. The rehabilitation work would seal off holes in the casing and cleaning perforations. However, this work has been delayed due to potential relocation of the well as part of the Proposed Project.

¹⁵ Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*. Pages 6-8 through 6-10.

¹⁶ City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-9.

¹⁷ City of Inglewood, 2018. *Proposed Well Number 8 Preliminary Design Report*. July. Page 1.

TABLE 3.8-2
WELL NUMBER 6 HISTORICAL WELL PRODUCTION (AFY)

| Well | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Well Number 6 | 2,055 | 1,810 | 1,441 | 1,062 | 1,835 | 1,288 | 1,493 | 1,330 |

SOURCE: City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-11.

According to the project-specific Preliminary Geotechnical Report, the historically highest groundwater level in the project vicinity was greater than 50 feet below existing grade.¹⁸ Well Number 6 is set at approximately 400-feet below grade.

Central Basin

The Central Basin, or southeastern portion of the Los Angeles Coastal Plain, has a surface area of approximately 270 square miles.¹⁹ The Central Basin is bounded to the north by the Hollywood Basin and the Elysian, Repetto, Merced, and Puente Hills; to the east by the Los Angeles County/Orange County line; and to the south and west by the Newport-Inglewood fault zone and the WCGB.

Similar to the WCGB, water bearing deposits in the Central Basin include the unconsolidated and semi-consolidated marine and alluvial sediments of Holocene, Pleistocene, and Pliocene ages.²⁰ The Central Basin is divided into four sections, including the Los Angeles Forebay, the Montebello Forebay, the Whittier Area, and the Pressure Area.²¹ The two forebays represent areas of unconfined aquifers that allow percolation of surface water down to deeper production aquifers to replenish the rest of the basin. The Whittier Area and Pressure Area are confirmed aquifer systems that receive relatively minimal recharge from surface water, but are replenished from the upgradient forebay areas or other groundwater basins. As detailed above, the Newport-Inglewood Uplift fault is a partial barrier to groundwater flow, causing differences in water levels on opposite sides of the fault system. Groundwater flows between the WCGB and Central Basin are based on the groundwater elevations on either side of the fault. Most of the groundwater in the Central Basin remains at an elevation below sea level due to historic over pumping.

The Central Basin has an estimated storage capacity of approximately 13.8 million AF.²² The Central Basin was adjudicated by the courts in 1965 due to over pumping and a decline in water levels. The Central Basin adjudication was originally set at 267,900 AFY, and adjusted to

¹⁸ AECOM, 2018. *Preliminary Geotechnical Report*. Page 10.

¹⁹ Water Replenishment District of Southern California, 2016. *Groundwater Basins Master Plan*. Available: [HYPERLINK "https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf"]. Accessed October 3, 2018. Page 1-3.

²⁰ Todd Groundwater, 2018. *Water Supply Assessment: Golden State Water Company – Southwest, Inglewood Basketball and Entertainment Center*. September.

²¹ Water Replenishment District of Southern California, 2016. *Groundwater Basins Master Plan*. Available: [HYPERLINK "https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf"]. Accessed October 3, 2018. Page 1-4.

²² Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*. Page 6-4.

217,367 AFY to impose stricter control.²³ The GSWC’s adjudicated share of water rights is 16,439 AFY.²⁴ Similar to the WCGB, WRD is responsible for maintaining water levels in the Central Basin, and determines replenishment requirements.

The City of Inglewood does not own or operate wells within the Central Basin. The GSWC operates two wells that are located within the Central Basin (Bellhaven Number 3 and Bellhaven Number 4), which have a combined total design well capacity of 3,468 AFY.²⁵ **Table 3.8-3, Central Basin Historical Well Production (AFY)**, below shows GSWC’s historical well production from the Central Basin. Similar to the WCGB, groundwater pumped from the Central Basin has declined from 2011 to 2015 due to strong conservation efforts in response to a state-wide drought.

**TABLE 3.8-3
 CENTRAL BASIN HISTORICAL WELL PRODUCTION (AFY)**

| Entity | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------|-------|-------|-------|-------|------|
| GSWC | 3,260 | 3,250 | 2,920 | 2,861 | 430 |

SOURCE: Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*.

Flooding

Natural flooding within the City of Inglewood is not a common occurrence, as the region’s largest river, the Los Angeles River, does not flow through the City’s boundaries. The Dominguez Channel, which begins at the City of Hawthorne and City of Inglewood boundary, does not have a history of flooding into the adjacent neighborhoods. [Note to City: please confirm there has not been historical flooding.] Floods may occasionally occur within the City due to underground sewer main breaks or water laterals, which are under the responsibility of the City of Inglewood Department of Public Works Division of Public Services and Repair.²⁶

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) and delineates areas subject to flood hazards on Flood Insurance Rate Maps (FIRMs) for each community participating in the NFIP. The FIRMs show the areas subject to inundation by a flood that has a one percent chance or greater of being equaled or exceeded in any given year. This type of flood is commonly referred to as the 100-year or base flood. Areas on FIRMs are divided into geographic areas, or zones, that FEMA has defined according to varying levels of flood risk. **Table 3.8-4, FEMA Flood Zone Designations**, includes a description

²³ Water Replenishment District of Southern California, 2016. *Groundwater Basins Master Plan*. Available: [HYPERLINK "https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf"]. Accessed October 3, 2018. Page 1-4.

²⁴ Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*. Page 7-6.

²⁵ Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*. Page 6-8.

²⁶ City of Inglewood, 2018. Public Works Division of Public Services & Repair Responsibilities. Available: [HYPERLINK "https://www.cityofinglewood.org/375/Public-Services-Repair"]. Accessed November 6, 2018.

of the risk associated with each zone. The project site is designated as Zone X (unshaded), which means the project site is in an area above the 500-year flood level.²⁷

**TABLE 3.8-4
 FEMA FLOOD ZONE DESIGNATIONS**

| Zone | Description |
|-----------------------------------|---|
| Moderate to Low Risk Areas | |
| B and X (shaded) | Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year events. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year event, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile. |
| C and X (unshaded) | Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. |
| High Risk Areas | |
| A | Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones. |
| AE | The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones. |
| A1-30 | These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format). |
| AH | Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones. |
| AO | River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones. |
| AR | Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations. |
| A99 | Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones. |
| Undetermined Risk Areas | |
| D | Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk. |

SOURCE: Federal Emergency Management Agency, 2018. *Managing Floodplain Development Through the NFIP*. Available: [HYPERLINK "https://www.fema.gov/media-library/assets/documents/6029"]. Accessed October 4, 2018.

Water Quality

Surface Water Quality

Ambient water quality in the Dominguez Channel Watershed is influenced by numerous natural and artificial sources depending on location within the watershed, including pollutants, sediment

²⁷ Federal Emergent Management Agency, 2008. *Flood Insurance Rate Map, Los Angeles County, Map Number 06037C1780F*.

toxicity, bacteria, algae and eutrophic conditions, and trash.²⁸ **Table 3.8-5, Local Waterbodies Exceeding Water Quality Standards**, below shows water bodies within the watershed that are considered impaired because water quality standards are exceeded.

Dominguez Channel drains a highly industrialized area with numerous sources of pollution resulting from polycyclic aromatic hydrocarbons (PAHs) and also contains remnants of persistent legacy pesticides as well as polychlorinated biphenyls (PCBs), all of which contribute to poor sediment quality both within the channel and adjacent harbor areas.²⁹ Historically oil pumping had a large presence in the area, and some oil wells remain in operation. The pollutant dichlorodiphenyltrichloroethane (DDT) is highest (compared to the rest of the Dominguez Channel watershed) in the Dominguez Channel estuary and Consolidated Slip sediments, along with being present throughout the harbors. Metals are elevated at some located in the inner harbors, and at the Consolidated Slip, which is the part of the Inner Harbor immediately downstream of the Dominguez Channel, exhibits a very impacted benthic invertebrate community.

**TABLE 3.8-5
 LOCAL WATERBODIES EXCEEDING WATER QUALITY STANDARDS**

| Waterbody | Segment/Area | Estimated Size Affected | Pollutant/Stressor(s) |
|--------------------------------------|---|--------------------------------|--|
| Dominguez Channel | Above Vermont | 6.7 miles | Chromium, copper, lead, zinc, pesticides, DDT, PCBs, PAH, ammonia, bacteria |
| | Vermont to Estuary | 8.3 miles | Chromium, lead, zinc, pesticides, DDT, PAH, benthic community effects, ammonia, bacteria |
| Los Angeles Harbor | Consolidated Slip | 36 acres | Cadmium, chromium, copper, lead, mercury, nickel, zinc, pesticides, DDT, PCBs, PAHs, toxaphene, sediment toxicity, benthic community effects |
| | Fish Harbor | 34 acres | DDT, PCBs, PAHs |
| | Southwest Slip | 63 acres | DDT, PCBs, sediment toxicity |
| | Main Channel | 279 acres | Copper, zinc, DDT, PCBs, PAHs, sediment toxicity, beach closures |
| | Inner Breakwater | 74 acres | DDT, PCBs, PAHs |
| | Cabrillo Beach (inner) | 0.56 miles | DDT, PCBs, beach closures |
| Long Beach Harbor | Main channel, SE, W Basin, Pier J, Breakwater | 1,076 acres | DDT, PCBs, PAHs, sediment toxicity, benthic community effects |
| San Pedro Bay Nearshore and Offshore | -- | 5,758 acres | Chromium, copper, zinc, DDT, PCBs, PAHs, sediment toxicity |
| Machado Lake | -- | 45 acres | DDT, PCBs, pesticides, ammonia, algae, eutrophic, odors, trash |

²⁸ Los Angeles County Department of Public Works, 2004. *Dominguez Watershed Management Master Plan*. Available: [HYPERLINK "http://www.ladpw.org/wmd/watershed/dc/DCMP/masterplan.cfm"]. Accessed October 4, 2018.

²⁹ State Water Resources Control Board, 2014. Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. Available: [HYPERLINK "https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html"]. Accessed October 4, 2018.

**TABLE 3.8-5
LOCAL WATERBODIES EXCEEDING WATER QUALITY STANDARDS**

| Waterbody | Segment/Area | Estimated Size Affected | Pollutant/Stressor(s) |
|-------------------------|---------------------|--------------------------------|---------------------------------|
| Wilmington Drain | -- | 0.56 miles | Copper, lead, ammonia, bacteria |
| Torrance Carson Channel | -- | 3.4 miles | Copper, lead, bacteria |

SOURCE: Los Angeles County Department of Public Works, 2004. *Dominguez Watershed Management Master Plan*. Available: [HYPERLINK "http://www.ladpw.org/wmd/watershed/dc/DCMP/masterplan.cfm"]. Accessed October 4, 2018.

Beneficial uses identified by the Los Angeles RWQCB for the surface water bodies in the watershed are summarized in **Table 3.8-6, Beneficial Uses Listed for Surface Waters within Dominguez Watershed**. Another type of benefit to the community is the flood protection provided by the extensive storm drainage system of the watershed.³⁰

³⁰ Los Angeles County Department of Public Works, 2004. *Dominguez Watershed Management Master Plan*. Available: [HYPERLINK "http://www.ladpw.org/wmd/watershed/dc/DCMP/masterplan.cfm"]. Accessed October 4, 2018. Page 1-7.

**TABLE 3.8-6
 BENEFICIAL USES LISTED FOR SURFACE WATERS WITHIN DOMINGUEZ WATERSHED**

| Beneficial Uses | Dominguez Channel | Machado Lake and Wilmington Drain | Los Angeles and Long Beach Harbors |
|---|--------------------------|--|---|
| Municipal and Domestic Supply (MUN) | P | P | |
| Industrial Service Supply (IND) | | | E |
| Navigation (NAV) | P | | E |
| Contact Water Recreation (REC-1) | P | E | E |
| Non-Contact Water Recreation (REC-2) | E | E | E |
| Commercial and Sport Fishing (COMM) | E | | E |
| Warm Freshwater Habitat (WARM) | P | E | |
| Estuarine Habitat (EST) | E | | |
| Marine Habitat (MAR) | E | | E |
| Wildlife Habitat (WILD) | E | E | E |
| Biological Habitats of Special Significance (BIOL) | | E | |
| Rare, Threatened or Endangered Species (RARE) | E | E | E |
| Migration of Aquatic Organisms (MIGR) | E | | E |
| Spawning, Reproduction, and/or Early Development (SPWN) | | | E |
| Shellfish Harvesting (SHELL) | | | P |
| Wetland Habitat (WET) | | E | |

NOTES:
 P=potential beneficial use, E = existing beneficial use
 Beneficial use designations also apply to all tributaries of Dominguez Channel

SOURCE: Los Angeles County Department of Public Works, 2004. *Dominguez Watershed Management Master Plan*. Available: [HYPERLINK "http://www.ladpw.org/wmd/watershed/dc/DCMP/masterplan.cfm"]. Accessed October 4, 2018. Page 1-7.

Groundwater Quality

City of Inglewood and GSWC wells in the WCGB and Central Basin have historically and currently produce groundwater that meets federal and State water quality standards.^{31,32} However, the WCGB has water quality constituents of concern, including iron, manganese, hydrogen sulfide odor, and total dissolved solids. In order to address these constituents, WCGB wells have treatment processes and are monitored closely. In addition, groundwater is treated for iron and manganese at the City of Inglewood’s Sanford M. Anderson Water Treatment Plant to meet water quality standards.

³¹ Golden State Water Company, 2016. *2015 Urban Water Management Plan, Southwest*. Page 6-5.

³² City of Inglewood, 2016. *2015 Urban Water Management Plan*. Page 6-13.

The Salt and Nutrient Management Plan for the Central Basin and WCGB documents that average salt and nutrient concentrations in the WCGB groundwater do not meet water quality objectives of the RWQCB because of historical seawater intrusion.³³ However, existing and planned implementation measures (including barrier projects, desalters, recharge projects, and other programs) ensure that salt and nutrient levels in groundwater would achieve concentration objectives.

3.8.2 Regulatory Setting

Federal

Clean Water Act

Water quality objectives for all waters of the United States are established under applicable provisions of Section 303 of the federal Clean Water Act (CWA). The CWA prohibits the discharge of pollutants to navigable waters from a point source unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Because implementation of these regulations has been delegated to the State, additional information regarding this permit is discussed under the “State” subheading, below.

National Pollutant Discharge Elimination System Permits

The NPDES permit system was established in the CWA to regulate municipal and industrial point discharges to surface waters of the U.S. Each NPDES permit for point discharges contains limits on allowable concentrations of pollutants contained in discharges. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants.

The CWA was amended in 1987 to require NPDES permits for non-point source (i.e., stormwater) pollutants in discharges. Stormwater sources are diffuse and originate over a wide area rather than from a definable point. The goal of NPDES stormwater regulations is to improve the quality of stormwater discharged to receiving waters to the “maximum extent practicable” through the use of structural and non-structural Best Management Practices (BMPs). BMPs can include the development and implementation of various practices including educational measures (workshops informing public of what impacts results when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures, and structural measures (filter strips, grass swales and detention ponds). The NPDES permits that apply to activities in the City of Inglewood are described under local regulations below.

Code of Federal Regulations

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR). FEMA imposes building regulations on development within

³³ Todd Groundwater, 2018. *Water Supply Assessment: Golden State Water Company – Southwest, Inglewood Basketball and Entertainment Center*. September.

flood hazard areas depending upon the potential for flooding within each area. Building regulations are incorporated into the municipal code of jurisdictions participating in the NFIP. FEMA does not regulate buildings or require flood insurance in areas designated Zone X, such as the project site.

State

Porter-Cologne Water Quality Control Act

The SWRCB and Los Angeles RWQCB are delegated authority from the U.S. Environmental Protection Agency (EPA) to implement portions of the CWA, and the State's water quality law, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). These agencies have established water quality standards that are required by Section 303 of the CWA and the Porter-Cologne Act. The Porter-Cologne Act states that a Water Quality Control Plan, or Basin Plan, will consist of beneficial uses, water quality objectives, and a program of implementation for achieving water quality objectives. A Basin Plan, prepared by the Los Angeles RWQCB, establishes water quality numerical and narrative standards and objectives for rivers and their tributaries within the area subject to the Basin Plan. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria apply such as EPA water quality criteria developed under Section 304(a) of the CWA. The Basin Plan that applies to the project site is described under local regulations below.

General Construction Activity Stormwater Permit

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the State requires that any construction activity affecting one acre or more obtain coverage under a General Construction Activity Stormwater Permit (General Construction Permit). The current General Construction Permit is the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010. General Construction Permit applicants are required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) which includes implementing BMPs to reduce construction effects on receiving water quality by implementing erosion and sediment control measures and reducing or eliminating non-stormwater discharges. Examples of typical construction BMPs in SWPPPs include, but are not limited to: using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment so as to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the City drainage system or receiving waters.

Construction activity that results in soil disturbances of less than one acre is subject to the General Construction Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) consists of three legislative bills, Senate Bill SB 1168, Assembly Bill AB 1739, and Senate Bill SB 1319, (or Division 6 Part 2.74 through Part 2.78 of the California Water Code), that provide a framework for long-term sustainable groundwater management across California. Under the legislation, local and regional authorities in medium and high priority groundwater basins will form Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). Groundwater within the WCGB and Central Basin is adjudicated by court order to protect the underground water supply within the basins. As such, these basins are already managed and are not required to submit a GSP, but is required to submit groundwater monitoring data annually to the California Department of Water Resources.

Regional

As previously detailed, the project site is located within the jurisdiction of the RWQCB. The RWQCB authorizes NPDES permits that ensures compliance with wastewater treatment and discharge requirements. The Los Angeles RWQCB enforces wastewater treatment and discharge requirements for properties in the Project Area.

Local

City of Inglewood General Plan

The City of Inglewood General Plan Conservation Element, adopted on October 21, 1997, addresses the plan for conservation, development and utilization of natural resources found within the jurisdiction of the City. Chapters III through IV of the Conservation Element address resource conservation and management and contain several goals, objectives, and policies related to hydrology and water quality. The following policies from the City of Inglewood General Plan Conservation Element are applicable to the Proposed Project:

Water Production

Policy 1: Protect aquifers and water sources (which includes prevention of contamination of ground water by surface contaminants leaching into the soil).

Policy 2: Reduce the ever-increasing demand being placed on the aquifers and on the statewide water sources.

Storm Drains and Waste Water

Policy 2: Require periodic sweeping to remove oil, grease and debris from parking lots of 25 spaces or more.

The Proposed Project would appear to be consistent with each of the policies listed above. Consistent with Water Production Policy 1 and as further detailed below in Impact 3.8-1, the Proposed Project would be required to comply with federal, state, and local regulations and implement BMPs to reduce erosion and runoff to protect aquifer and water sources. Consistent with Water Production Policy 2 and as detailed in Impact 3.8-2 below, the Proposed Project

would not interfere with groundwater recharge or demand being placed on aquifers. In addition, consistent with Storm Drains and Waste Water Policy 2, the Proposed Project would implement periodic sweeping of parking lots to remove oil, grease, and debris. The responsibility for the final determination of consistency with the City's General Plan is the responsibility of the City of Inglewood City Council.

Municipal Separate Storm Sewer System Permit

Los Angeles County and 84 incorporated cities, including the City of Inglewood, have a joint Municipal Separate Storm Sewer System NPDES permit (MS4 Permit) (Permit Order No. R4-2012-0175, NPDES Permit No. CAS004001) that was granted on November 8, 2012. The MS4 Permit is intended to implement BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. The permittees listed under the joint permit have the authority to develop, administer, implement, and enforce storm water management programs within their own jurisdiction. On June 27, 2013, the cities of El Segundo, Hawthorne, Inglewood, and Los Angeles (including the Port of Los Angeles), the County of Los Angeles, and the Los Angeles County Flood Control District formed the Dominguez Channel Watershed Management Area Group to develop a collaborative approach to meet the requirements of the MS4 Permit.

Urban storm water runoff is defined in the MS4 Permit as including stormwater and dry weather flows from a drainage area that reaches a receiving water body or subsurface. The permit regulates the discharge of all wet and dry weather urban storm water runoff within the County of Los Angeles (with exception to the City of Long Beach). Part VI.C of the Los Angeles County MS4 permit allows permittees the flexibility to develop Watershed Management Programs (WMP) or Enhanced Watershed Management Programs (EWMP) to implement the requirements of the permit on a watershed scale through customized strategies, control measures, and best management practices (BMPs). The Dominguez Channel Watershed Management Area Group developed a EWMP that was approved by the Los Angeles Water Board on February 26, 2016.³⁴ The EWMP includes water quality priorities for the Dominguez Channel Watershed Management Area, watershed control measures consisting of both structural and non-structural BMPs, financial strategies, and legal authority.

Standard Urban Stormwater Mitigation Plan

In 2000, the Standard Urban Stormwater Mitigation Plan (SUSMP) was approved by the Los Angeles RWQCB as part of the MS4 program to address stormwater pollution from new construction and redevelopment. The SUSMP is updated as needed in accordance with the MS4 Permit. The SUSMP contains a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce post-project discharge of pollutants from stormwater conveyance systems. Based upon land type, the SUSMP defines the types of practices that must be included and issues that must be addressed as appropriate to the development type and size. One of the most important requirements of the SUSMP is the specific sizing criteria for stormwater treatment BMPs for new development and significant

³⁴ Dominguez Channel Watershed Management Area Group, 2015. *Enhanced Watershed Management Program*.

redevelopment projects. The SUSMP including sizing criteria for both volume-based and flow-based BMPs. The SUSMP also includes general design specifications for individual priority project categories. These include: single-family hillside homes, 100,000 square foot of impervious surface area industrial/commercial developments, automotive gasoline outlets, restaurants, ten or more unit homes, parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces, or projects located in or directly adjacent to an environmentally sensitive area.

City of Inglewood Municipal Code Low Impact Development Requirements

Section 10-208 of the City of Inglewood Municipal Code, titled Low Impact Development Requirements for New Development and Redevelopment, establishes requirements for construction activities and facility operations of development projects to comply with the current MS4 Permit. These include requirements to lessen the water quality impacts of development by using smart growth practices and integrate low impact development (LID) practices and standards for stormwater pollution mitigation.

County of Los Angeles Low Impact Development Standards Manual

In 2014, the County of Los Angeles prepared the Los Impact Development Standards Manual (LID Standards Manual) to comply with the requirements of the NPDES MS4 Permit for stormwater and non-stormwater discharges from the MS4 within the coastal watersheds of Los Angeles County.³⁵ The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. The City of Inglewood voluntarily implements these standards for projects within the city.

Groundwater Basins Master Plan

As detailed above, the WCGB and Central Basin were adjudicated in 1961 and 1965, respectively, due to over pumping.^{36,37} The adjudication limits the allowable annual extraction of groundwater per water rights holder within the basin in order to prevent seawater intrusion and an unhealthy groundwater level. As part of the adjudication, the court appointed the California Department of Water Resources to serve as Watermaster to account for all water rights and groundwater extraction amounts per year.

Since the adjudicated groundwater production is higher than the natural recharge of the basin, the California Legislature created the WRD to manage, regulate, and replenish the WCGB and

³⁵ County of Los Angeles Department of Public Works, 2014. *Low Impact Development Standards Manual*. February 2018.

³⁶ West Basin Municipal Water District, 2018. West Coast Groundwater Basin. Available: [HYPERLINK "<http://www.westbasin.org/water-supplies-groundwater/west-coast-groundwater-basin>"]. Accessed October 8, 2018.

³⁷ Water Replenishment District of Southern California, 2016. *Groundwater Basins Master Plan*. Available: [HYPERLINK "https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf"]. Accessed October 3, 2018.

Central Basin. Each year through WRD’s Regional Groundwater Monitoring Program, WRD determines the amount of supplemental recharge that is needed for the WCGB and Central Basin based upon annual groundwater extractions and groundwater levels. In 2016, WRD published the Groundwater Basins Master Plan, which provides a single reference document for parties operating within and maintaining the WCGB and Central Basin. The Master Plan provides options for meeting replenishment requirements and options for expanding the use of the basins’ storage to increase reliability of water supplies.

3.8.3 Analysis, Impacts and Mitigation

Significance Criteria

A significant impact would occur if the Proposed Project would:

1. Violate any water quality standards or waste discharge requirements;
2. 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);
3. 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;
4. 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;
5. 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;
6. Otherwise substantially degrade water quality;
7. 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;
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
9. 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
10. Inundation by seiche, tsunami, or mudflow.

Methodology and Assumptions

As discussed in section 3.0.3, Issues Previously Determined to be Less Than Significant, the following significance criteria were found to have no impacts or less-than-significant impacts.

With regard to significance criteria (7) and (8), the project site is not within a 100-year flood hazard area as mapped on the Flood Insurance Rate Map. Therefore, significance criteria (7) and (8) do not apply to the Proposed Project, and no further analysis is required. With regard to significance criterion (9), the project site is not near a levee or a dam. In addition, the exposure of people or property to flooding would involve the potential effect of the environment on the Proposed Project, and, pursuant to the findings of the California Supreme Court in *CBIA v. BAAQMD* (62 Cal. 4th 369) is not an issue that is appropriately discussed under CEQA. Therefore, significance criterion (9) does not apply to the Proposed Project, and no further analysis is required. With regard to significance criterion (10), the project site is very flat with gentle slopes and is not near any body of water, including the Pacific Ocean. Therefore, significance criterion (10) does not apply to the Proposed Project, and no further analysis is required. Please refer to section 3.0.3, Issues Previously Determined to be Less Than Significant, for a discussion of these topics.

The following impact analyses are qualitative and based on existing hydrologic and water quality information. It is assumed that all aspects of the Proposed Project would comply with all applicable laws, regulations, design standards, and plans. Impacts on water quality were evaluated by considering the type of pollutants the Project would generate during construction and operation and whether meeting the requirements of applicable regulations would reduce potential impacts to a less-than-significant level. Onsite drainage impacts were evaluated in the same manner as water quality impacts. The analysis of impacts to groundwater considers how redevelopment of the Proposed Project would influence groundwater recharge based on increases in impervious surfaces as a result of the Project and the existing and projected condition of the groundwater basin, along with the relocation of Well Number 6. An analysis of impacts to water supply, sewer, and stormwater infrastructure is included in section 3.14, Utilities and Service Systems.

Impacts and Mitigation Measures

Impact 3.8-1: Implementation of the Proposed Project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.

Construction

The use of construction equipment and other vehicles could result in spills of oil, grease, gasoline, brake fluid, antifreeze, or other vehicle-related fluids and pollutants. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could result in accidental spills or discharges that could degrade water quality. As discussed in the Regulatory Setting, above, the Proposed Project would be required to comply with a number of regulations designed to reduce or eliminate construction-related water quality effects, including the NPDES General Construction Permit and the City's Municipal Code Section 10-208 (Low Impact Development Requirements). Before the onset of any construction activities, an application for coverage under the General Construction Permit would be submitted to the City.

In addition, in compliance with Municipal Code Section 10-208, the applicant would be required to prepare and submit to the City a Stormwater Mitigation Plan, which would implement set LID standards and practices for stormwater pollution mitigation consistent with the County's LID Standards Manual. The Stormwater Mitigation Plan would demonstrate the Project's compliance with the MS4 Permit. Before construction could begin, a SWPPP would be developed and a Notice of Intent (NOI) filed with the Los Angeles RWQCB. After approvals of coverage under the General Construction Permit, the Stormwater Mitigation Plan, and the SWPPP are obtained, construction could commence and would be required to include all BMPs outlined in the Stormwater Mitigation Plan and SWPPP. BMPs could consist of a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. The City would complete inspections to verify that the Stormwater Mitigation Plan and SWPPP are implemented correctly.

The City's Municipal Code Section 10-208 also requires BMPs to minimize the potential for and effects from discharge (defined as any spill or release of substances) and pollutants (which include metals, fuels, solvents, petroleum substances, and more) during construction activities for all contractors. If a spill were to occur, the contractor would notify the City, and the contractor would take action to contact the appropriate safety and clean-up crews to ensure that a prevention program is followed. In addition, the City would investigate any spills reported. A written description of reportable releases would be submitted to the Los Angeles RWQCB and the Department of Toxic Substances Control (DTSC) by the contractor or land owner. If an appreciable spill were to occur and it were determined that construction activities have adversely affected surface water or groundwater quality, a detailed analysis would be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis would include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, contractors would select and implement measures to control contamination, with a performance standard that surface and/or groundwater quality must be returned to baseline conditions. These measures would be subject to approval by the City and/or the Los Angeles RWQCB.

Compliance with NPDES General Construction Permit and Municipal Code regulations as outlined above would prevent the substantial degradation of water quality during Project construction. These regulatory instruments are designed to ensure that construction projects result in water quality discharges that are not in violation of SWRCB objectives. Therefore, project construction would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be **less than significant**.

Operation

During operation of the completed Proposed Project, runoff from the project site would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, pet waste, and garbage/litter. Without BMPs to remove these pollutants, stormwater leaving the project site could degrade the quality of receiving waters, including the Dominguez Channel. Through compliance with the NPDES stormwater discharge permit, the Proposed

Project would be designed to reduce operational stormwater pollution to the maximum extent practicable and eliminate prohibited non-stormwater discharges.

Operation of the Proposed Project would also be required to comply with the County's LID Standards Manual. A Project-specific LID Report has been prepared to reduce the volume of stormwater runoff and potential pollutants in stormwater runoff at the project site.³⁸ According to the LID Report, the Proposed Project would utilize a combination of County standard bio-filtration planters and bio-filtration systems to treat the stormwater. Runoff would be directed from drainage areas to onsite bio-filtration plants and bio-swales. The bio-filtration systems are designed to capture site runoff from roof drains, treat the runoff through biological reactions within the planter soil media, and discharge at a rate intended to mimic pre-developed conditions. Sizing and capacity analysis of the proposed bio-filtration systems would be calculated following the design guidelines defined from the Los Angeles RWQCB. As detailed in the LID Report, these operational BMPs would capture stormwater runoff and prevent pollutants from contacting stormwater run-off and/or prevent discharge of contaminated stormwater run-off to the storm drain systems.

The Proposed Project would also be designed to comply with the regulatory requirements listed above and to obtain certification under the US Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) program. The Project would meet or exceed current uniform codes designed to achieve a LEED Gold rating. The Project would apply for LEED certification of the proposed buildings and accompanying development in the Building Design + Construction (BD+C) category, and would adopt a LEED campus approach in order to capture site-wide strategies such as those related to stormwater management and provision of open space.

Specific BMPs have not been identified because Project design is in an early phase. The Project development process includes identification of BMPs that respond to the design and construction methods of the project. The BMPs are implemented to ensure that water quality would not be degraded and the violation of water quality or waste discharge objectives set by the SWRCB would not occur. City review would confirm that BMP implementation complies with all applicable regulations. The LEED certification process also requires extensive coordination with the USGBC, and through that coordination, identifies measures that ensure that water pollutant removal would be implemented in full compliance with the program and certification requirements.

In light of the regulations that are in place to ensure that the operations of the Proposed Project would not result in an impact to water quality, this impact would be **less than significant**.

Mitigation Measure

None required.

³⁸ AECOM, 2018. *Inglewood Basketball & Entertainment Center Project Low Impact Development (LID) Report*. August 23, 2018. Page 3 through 6.

Impact 3.8-2: Implementation of the Proposed Project would not 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).

Groundwater Recharge

The project site currently consists of both pervious and impervious surfaces, including commercial buildings, a hotel, a fast-food restaurant, and portions of vacant land. The project site is currently made up of approximately 15 percent impervious surfaces and 85 percent pervious surfaces. As detailed above in section 3.8.1, preliminary investigations of the project site indicate that the site's native soil characteristics have poor drainage with a low infiltration rate.³⁹ The underlying, predominantly clayey soils at the project site have never experienced saturation. This indicates that the project site currently provides very little groundwater recharge through percolation of soils.

The Proposed Project would include a multi-purpose sports arena, retail/commercial buildings, a parking structure, outdoor plaza, and associated surface parking. Due to these improvements, it is estimated that approximately 90 percent of the project site would be covered by impervious surfaces. However, as the existing condition of the project site is either developed with impervious surfaces or has low infiltration and groundwater recharge, the net change of groundwater recharge at the project site would be negligible. Nevertheless, as detailed above in Impact 3.8-1, the Proposed Project would include County standard bio-filtration planters and bio-filtration systems to treat stormwater. Runoff would be directed from drainage areas to onsite bio-filtration plants and bio-swales. The bio-filtration systems would be designed to capture site runoff from roof drains, treat the runoff through biological reactions within the planter soil media, and discharge at a rate intended to mimic pre-developed conditions or better.

Therefore, the potential for the Proposed Project to interfere with groundwater recharge would be negligible, and this impact would be considered **less than significant**.

Well Relocation

Please see section 3.14, Utilities and Service Systems, for a discussion of Project impacts related to water supply, including the provision of local groundwater to meet Project needs. The Proposed Project would include the relocation of Well Number 6, which is currently located within the project site. Well Number 6 would be replaced with a new Well Number 8. The proposed Well Number 8 would be located on two parcels south of West 102nd Street and west of South Doty Avenue. Water Well Number 8 discharge piping would connect to the existing City of Inglewood raw water main, located immediately in front of the proposed well site on West

³⁹ AECOM, 2018. *Inglewood Basketball & Entertainment Center Project Low Impact Development (LID) Report*. August 23, 2018. Page 2.

102nd Street.⁴⁰ The potential well capacity would be approximately 2,500 gpm (or approximately 4,000 AFY).

While the proposed Well Number 8 capacity would be an increase from the existing capacity of Well Number 6 (which produced an average of 1,540 AFY from 2008 through 2015), regulations are in place to ensure that there would not be a deficit in aquifer volume. As detailed above in the Environmental Setting and Regulatory Setting, WRD is responsible for maintaining water levels in the Central Basin and WCGB. Each year through WRD's Regional Groundwater Monitoring Program, WRD determines the amount of supplemental recharge that is needed for the WCGB and Central Basin based upon annual groundwater extractions and groundwater levels. Through this system of managing recharge in light of groundwater extraction, the overall level of groundwater resources is maintained over time.

Therefore, as the net change in groundwater recharge would be negligible with implementation of the Proposed Project, and as existing regulations would monitor the WCGB and Central Basin groundwater levels with the relocated well, the impact of the Proposed Project related to substantial depletion of groundwater supplies would be **less than significant**.

Mitigation Measure

None required.

Impact 3.8-3: Implementation of the Proposed Project would not 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, siltation, or flooding on- or off-site.

Construction

There are no natural water or drainage features on the project site, and current flow of stormwater runoff is to existing storm drain facilities which ultimately flow to City maintained storm drain mains. The Proposed Project would include ground disturbing activities to construct the proposed sports arena, retail/commercial buildings, parking structure, outdoor plaza, and associated surface parking. Ground disturbing activities, including excavation and grading, would alter the ground surface, consequently altering drainage patterns. Altered drainage patterns have the potential to result in erosion, sedimentation, and/or flooding on or offsite by redirecting or concentrating flows.

As detailed above under Impact 3.8-1, construction of the Proposed Project would be required to comply with the NPDES General Construction Permit and the City's Municipal Code Section 10-208. Through these regulations, the applicant would be required to prepare and implement a Stormwater Mitigation Plan and a SWPPP. These plans would include erosion and sediment

⁴⁰ City of Inglewood, 2018. *Proposed Well Number 8 Preliminary Design Report*. July. Page 4 through 5.

control BMPs to minimize the potential for erosion and sedimentation to occur during construction. BMPs would include, but would not be limited to, filtering runoff during construction, avoiding heavy grading and earthwork operations during the rainy season, and incorporating landscaping as early as possible. In addition, prior to receiving grading and building permits from the City, the applicant would be required to prepare a final geotechnical report, which requires recommendations for surface and subsurface drainage, slope stabilization, erodible soils, and compliance with City drainage requirements.

Therefore, because the Proposed Project would implement applicable plans and BMPs, impacts to drainage patterns and associated erosion, sedimentation, and/or flooding during construction would be **less than significant**.

Operation

As detailed above under Impacts 3.8-1 and 3.8-2, approximately 90 percent of the project site would be covered by impervious surfaces.⁴¹ Through compliance with the NPDES stormwater discharge permit, the Proposed Project would be designed to reduce operational stormwater runoff, which in turn would reduce associated erosion, sedimentation, and/or flooding on and off the project site. In addition, in compliance with the County's LID Standards Manual, the Proposed Project would utilize a combination of County standard bio-filtration planters and bio-filtration systems to treat the stormwater. Runoff would be directed from drainage areas to onsite bio-filtration plants and bio-swales. The bio-filtration systems are designed to capture site runoff from roof drains, treat the runoff through biological reactions within the planter soil media, and discharge at a rate intended to mimic pre-developed conditions.

Because the Proposed Project would be designed to capture runoff and mimic pre-developed conditions, impacts to drainage patterns and associated erosion, sedimentation, and/or flooding during operation of the Proposed Project would be **less than significant**.

Mitigation Measure

None required.

Impact 3.8-4: Implementation of the Proposed Project 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.

Construction

Existing drainage from the project site flows to adjacent off-site storm drain facilities and ultimately in to the City maintained storm drain mains located along all streets surrounding the project site. Construction of the Proposed Project would require the use of water on-site for

⁴¹ AECOM, 2018. *Inglewood Basketball & Entertainment Center Project Low Impact Development (LID) Report*. August 23, 2018. Page 2 through 6.

various purposes including dust control, concrete mixing, and sanitation. Construction activities and materials would alter the drainage pattern of the project site, potentially increasing water flow and the risk of siltation into the existing drainage system.

With implementation of BMPs as required by the site-specific SWPPP, including but not limited to the installation of silt fences or other similar devices to remove sediment from surface runoff before it leaves the project site, erosion and other pollutants would be prevented from being discharged from the project site. Typical construction BMPs including but not limited to silt fences, fiber rolls, and compost blankets would also slow flows and reduce the rate of runoff leaving the project site. By controlling and limiting the flow of water, runoff to stormwater drainage systems would be reduced. With implementation of these regulations and BMPs, the Proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or result in substantial additional sources of polluted runoff. Therefore, impacts during construction would be **less than significant**.

Operation

The Proposed Project would include the following on-site drainage features and infrastructure improvements that would connect to existing storm drains within surrounding streets.

Arena Site

Under the Proposed Project, West 102nd Street would be vacated and the proposed arena would be built over the street. The Proposed Project would construct new site access roads along the periphery of the arena. The existing catch basin at the intersection of West 102nd Street and South Prairie Avenue would be removed, along with the existing storm drain line within West 102nd Street. Stormwater pipelines, storm drains, and storm drain overflow pipes would be installed within and along the proposed site access roads. The new stormwater pipelines within the proposed site access roads would connect to the existing storm drain lines within South Prairie Avenue. Grate opening catch basins, stormwater pipelines, and storm drain overflow pipelines would also be installed within the northern portion of the arena site to accommodate the public plaza, outdoor stage, community space, and retail/restaurant uses. Bio-filtration systems would be installed throughout the arena site, including but not limited to, along South Prairie Avenue, along the proposed site access roads, and within the public plaza space.

Parking Garage Site and TNC Drop Off Area

With implementation of the Proposed Project, the proposed parking garage would be constructed over West 101st Street, and new site access roads would be constructed along the periphery of the parking garage to redirect traffic. An underground precast detention and pretreatment system would be installed west of the parking garage under the westerly proposed site access road. Stormwater pipelines and a side opening catch basin would be installed within West 101st Street to connect the proposed detention and pretreatment system to the existing storm drain line within West 101st Street. Stormwater pipelines, storm drain overflow pipe, and bio-filtration systems would be installed within the proposed periphery site access roads. In addition, a trench drain would be installed at the southwest corner of the parking garage site.

Hotel and Surface Parking Site

Under the Proposed Project, stormwater pipelines and storm drain overflow pipe would be installed along the boundary of the hotel and surface parking site. An underground precast detention and pretreatment system would be installed at the southwest corner of the hotel and surface parking site. Stormwater pipelines would be installed within West 102nd Street to connect the proposed detention and pretreatment system to existing storm drain line within West 102nd Street.

Well Relocation Site

No storm drain infrastructure improvements would occur on the well relocation site under the Proposed Project.

Analysis

As detailed above, portions of West 102nd Street and West 101st Street that cross the project site would be vacated and constructed over, which would include the removal of drainage features (including stormwater pipelines and an existing catch basin) within these roadways. Nevertheless, the Proposed Project would include new site access roads around the periphery of the arena site and parking garage site, which would include new stormwater pipelines, storm drains, and storm drain overflow pipes. These features would also be constructed at the hotel and surface parking site. In addition, the Proposed Project would include grate opening catch basins, side opening catch basins, underground precast detention and pretreatment systems, and bio-filtration systems throughout the project site. All proposed onsite drainage features would be required to be approved by City engineers and comply with local regulations.

As previously described, the Proposed Project would be required to comply with all applicable drainage regulations and standards, including the NPDES General Construction Permit, the City's Municipal Code, and the County's LID Standards Manual. The Proposed Project would utilize bio-filtration planters and bio-filtration systems to treat the stormwater runoff. Runoff would be directed from drainage areas to onsite bio-filtration plants and bio-swales, slowing the rate of runoff and in turn slowing the amount of water entering the stormwater drainage system. The bio-filtration systems are designed to capture site runoff from roof drains, treat the runoff through biological reactions within the planter soil media, and discharge at a rate intended to mimic pre-developed conditions.

With construction of on-site drainage features and infrastructure improvements that would connect to existing storm drains within surrounding streets, along with implementation of regulations and BMPs, the Proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or result in substantial additional sources of polluted runoff. Therefore, impacts during operation of the Proposed Project would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The geographic scope of analysis for cumulative impacts related to water quality includes the Dominguez Channel Watershed. Cumulative impacts have the potential to discharge pollutants, including erosion and siltation, off site during construction and operational activities, which could further degrade the receiving waters within the hydrologic unit.

The geographic scope of analysis for cumulative impacts related to surface water runoff and drainage capacity is the City of Inglewood, as stormwater runoff flows to existing storm drain facilities which ultimately flow to City maintained storm drain mains.

The geographic scope of analysis for cumulative impacts related to groundwater recharge and supply is the WCGB and Central Basin.

Impact 3.8-5: Implementation of the Proposed Project, in combination with other development within the Dominguez Channel Watershed, would not cumulatively violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.

Cumulative projects have the potential to discharge pollutants, including erosion and siltation, off site during construction and operational activities, which could further degrade receiving waters within the Dominguez Channel Watershed. However, similar to the Proposed Project, cumulative projects would be required to implement project-specific BMPs and comply with federal, state, and local regulations related to water quality. These regulations include, but are not limited to, the NPDES General Construction Permit, the City's Municipal Code Section 10-208, and the County's LID Standards Manual. If cumulative projects are greater than one acre, they would be required to prepare and implement a SWPPP to reduce pollutants in stormwater and other non-point source runoff. As a result of the regulatory framework that exists to regulate the quality of water discharges from the project site and other sites of cumulative projects within the Dominguez Channel Watershed, implementation of the Proposed Project, along with past, present, and reasonably foreseeable projects, would have a **less than significant** cumulative impact on water quality standards or otherwise substantially degrade quality.

Mitigation Measure

None required.

Impact 3.8-6: Implementation of the Proposed Project, in combination with other development within areas served by the WCGB and Central Basin groundwater basins, would not cumulatively deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table level.

As stated above, the geographic scope of analysis for cumulative impacts related to groundwater recharge is the WCGB and Central Basin. Groundwater infiltration relates to the infiltration rate of soils and the amount of impervious surfaces within the groundwater basin. As the city is largely built out, cumulative projects would not substantially increase the amount of impervious surfaces. In addition, if cumulative projects directly or indirectly effect groundwater supplies, existing regulations are in place to annually monitor the WCGB and Central Basin groundwater levels. As detailed above within section 3.8.1 and section 3.8.2, WRD is responsible for maintaining water levels within the WCGB and Central Basin, including through purchasing and recharging additional water to make up for overdraft. Groundwater monitoring data for both basins is required to be submitted annually to the California Department of Water Resources. Therefore, because existing regulations are in place to monitor the groundwater basins, implementation of the Proposed Project, along with past, present, and reasonably foreseeable projects, would have a **less than significant** cumulative impact on groundwater and aquifer levels.

Mitigation Measure

None required.

Impact 3.8-7: Implementation of the Proposed Project, in combination with other development in the Dominguez Channel Watershed, would not cumulatively alter the 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, siltation, or flooding on- or off-site.

Cumulative projects would likely have ground disturbing activities that would alter drainage patterns, which in turn could result in erosion, siltation, or flooding. However, similar to the Proposed Project, construction and operation of cumulative projects within the Dominguez Channel Watershed would be required to implement project-specific BMPs and comply with federal, state, and local regulations related to drainage. These regulations include, but are not limited to, the NPDES General Construction Permit, the City's Municipal Code Section 10-208, and the County's LID Standards Manual. In addition, if cumulative projects are greater than one acre, these projects would be required to prepare and implement a SWPPP that would include BMPs to reduce erosion, reduce the rate of runoff and flooding, and increase sediment control. Therefore, implementation of the Proposed Project, along with past, present, and reasonably foreseeable projects, would have a **less than significant** cumulative impact on drainage patterns and associated erosion, sedimentation, and/or flooding.

Mitigation Measure

None required.

Impact 3.8-8: Implementation of the Proposed Project, in combination with other development in the City of Inglewood, would not cumulatively create or contribute runoff water which would exceed capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

As stated above, the geographic scope of analysis for cumulative impacts related to surface water runoff and drainage capacity is the City of Inglewood, as stormwater runoff flows to storm drain facilities which ultimately flow to City maintained storm drain mains. As the city is largely built out, cumulative projects (listed in Chapter 3.0, Environmental Impacts, Setting, and Mitigation Measures) would involve redevelopment of existing paved or developed sites, and would not substantially increase the amount of impervious surfaces. Thus, the change of runoff to stormwater drainage systems would largely be negligible after development of cumulative projects. Additionally, as previously discussed, cumulative projects would be required to comply with applicable stormwater runoff regulations, including the NPDES General Construction Permit, the City's Municipal Code Section 10-208, and the County's LID Standards Manual. BMPs associated with these regulations would reduce runoff, therefore reducing the amount of stormwater entering the drainage systems. In addition, redeveloped parcels would likely undergo changes that would eliminate outdated water drainage features that no longer meet current regulations. Older infrastructure would be replaced with features that would provide higher quality of stormwater runoff than exists under current conditions. Therefore, implementation of the Proposed Project, along with past, present, and reasonably foreseeable projects, would have a **less than significant** cumulative impact related to exceeding the capacity of storm drainage facilities.

Mitigation Measure

None required.
