4.0 ENVIRONMENTAL IMPACT ANALYSIS
G. HYDROLOGY AND WATER QUALITY

1. INTRODUCTION

This section describes the affected environment and regulatory framework associated with hydrology and water quality on the Harbor-UCLA Campus and in the Project vicinity. It also describes impacts on hydrology and water quality that would result from implementation of the proposed project. Since plans for buildout of the Master Plan Project are presently conceptual, analysis and determination of potential impacts are based on the general concept and layout described in Section 2.0, Project Description, of this Draft EIR rather than a detailed, fixed plan. Information in this section is based on documents including the Harbor-UCLA Master Plan (2012), Los Angeles County General Plan Update (2015) and associated EIR (2015).

2. ENVIRONMENTAL SETTING

a. Surface Water Quality

The Project site is currently developed with a 72-acre Medical Center Campus which includes the Harbor-UCLA Medical Center and three other major tenants; LA BioMed, the largest tenant, the Harbor-UCLA Medical Foundation, Inc., and the Children's Institute International. A number of other County departments, including offices of the Department of Mental Health, occupy buildings on the Medical Center Campus. Land cover on-site consists primarily of buildings and pavement with limited and discontinuous landscaping located throughout the campus. Land uses at the site include a mix of commercial, transportation, institutional and landscape. Land uses around the medical center include commercial uses, primarily neighborhood retail businesses and medical/dental services. The Harbor-UCLA Medical Center Employee Children's Center and a multifamily residential apartment complex are located on Carson Street. The area north of Carson Street is a predominantly single-family residential neighborhood. Vermont Avenue is developed with a mix of neighborhood retail uses and medical services just north and south of Carson Street, while the southern half of the block is developed with a condominium complex and mobile home parks. Wholesale and light industrial uses, primarily warehouses and truck distribution centers, are located to the southeast. Single-family and multi-family residential neighborhoods border the Medical Center Campus to the south as well as to the west. The abandoned Union Pacific Railroad right-of-way area along the west side of Normandie Avenue serves as a setback for residential uses to the west. An off-site surface parking lot serving LA BioMed is located across 220th Street from the Medical Center Campus.

The Project site does not appear to include water quality or Stormwater controls, such as Stormwater BMPs, LID features, or hydromodification management facilities. According to the Harbor-UCLA Master Plan, previously approved drainage plans for the emergency/surgery replacement indicate that several dry wells are utilized in the new development area. Rainfall and stormwater runoff on-site are managed by roof drains, catch basins, drain inlets, underground pipes, curbs, gutters, overland sheet flows, driveways, or other means of conveyance to the on-site storm drain system.

(1) Stormwater Runoff (Typical Pollutants from Project Site)

Stormwater runoff from the Project site is typical of urbanized areas and includes pollutants from motor vehicles and other transportation related uses (parking lots). Pollutants include hydrocarbons, oil, grease, sediment and heavy metals. Pollutants associated with landscape maintenance are also likely to be present in Stormwater runoff. These pollutants include nutrients from fertilizers and herbicides and pesticides. As the site is a medical center, and has a high volume of visitors, trash is also expected to be a potential pollutant. Fecal coliform bacteria and other pollutants are typically found in Stormwater runoff from land uses similar to those at the site.

Landscaping throughout the Medical Center Campus is limited and discontinuous. There are several landscaped courtyards, predominantly at the western end of the Campus, surrounding the MFI and CII buildings, and on the LA BioMed Campus, and in scattered locations in the north-central Campus. In addition, the main entrance to the Hospital on Carson Street is planted with mature trees, shrubs, and a lawn setback. The Vermont Avenue frontage, adjacent to the new parking structure and Hospital parking lot, and the corner of the Campus at Carson Street and Vermont Avenue, are the most heavily landscaped portions of the Medical Center Campus perimeter, with mature trees and a landscape setback from the sidewalk.

Table 4.G-1, *Pollutants of Concern by Land Use*, summarizes typical pollutants of concern according to land use. The majority of the pollutants listed are from the February 2014 County of Los Angeles Department of Public Works *Low-Impact Development Standards Manual*. Other pollutants the EPA recognizes as typically associated with the land uses present on the Project site are also included in the table.

(2) Pollutants of Concern Based on Receiving Water Impairment

The Project site is located within Region 4 (Los Angeles Region) of the RWQCB. The Los Angeles Region encompasses all coastal drainages flowing to the Pacific Ocean between Rincon Point (on the Coast of Western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). The region also includes all coastal waters within three miles of the continental and island coastlines. The Project site falls within the Dominguez Watershed which encompasses approximately 133 square miles in southwestern Los Angeles; 120 square miles is land and the rest is the Los Angeles/Long Beach Harbors. The watershed is composed of three subwatershed drainage areas; Upper Dominguez Channel, Lower Dominguez Channel and Estuary, and Los Angeles and Long Beach Harbors including Machado Lake[1]. The subwatersheds drain primarily via an extensive network of underground storm drains. The Upper Dominguez Channel drains into the Dominguez Channel while the Lower Dominguez Channel drains directly into the Los Angeles and Long Beach Harbor Area. The headwaters of the Dominguez Channel consist of an underground storm drain system which daylights approximately 0.25 miles north of the Hawthorne Municipal Airport. The Dominguez Channel drains approximately 62 percent of the watershed before discharging to Los Angeles Harbor. Within the watershed, approximately 93 percent of the land is developed. Residential development covers nearly 40 percent of the watershed with another 41 percent is covered with industrial, commercial, and transportation

[1] *Dominguez Channel Watershed Management Area Group, 2014. Draft Coordinated Integrated Monitoring Program For The Dominguez Channel Watershed Management Area Group. http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/dominguez_channel/DominguezChannel_CIMP.pdf, accessed 12/12/15.*

Table 4.G-1

Pollutants of Concern by Land Use

Land Use	Pollutants of Concern													
	Suspended Solids	Total Phosphorus	Total Nitrogen	Total Kjeldahl Nitrogen[b]	Cadmium, Total[b]	Chromium, Total[b]	Copper, Total[b]	Lead, Total[b]	Zinc, Total[b]	Biological Oxygen Demand (BOD)[d]	Chemical Oxygen Demand (COD)[d]	Fecal Coliform[d]	Hydrocarbons[d]	Trash[d]
Commercial	X	X	X	X	[c]	[c]	X	X	X					
Industrial	X	X	X	X	[c]	[c]	X	X	X					
Streets, Roads	X	X	X	X	[c]	[c]	X	X	X					
Educational Facilities	X				[c]	[c]	X		X					
Project Site	X	X	X	X	X	X	X	X	X	X	X	X	X	X

[a] *Adapted from Table A-3 of the Technical Manual for Stormwater Best Management Practices in the County of Los Angeles (February 2004) and the Southern California Coastal Water Research Project Land Use-Specific Stormwater Monitoring Data. X = exceedance of "standard" by observed median/average concentration; blank = no exceedance of "standard" by observed median/average concentration.*

[b] Derived from *Table* 11 of the 2012 Los Angeles County ms4 permit (page 104).

[c] No available data to determine if these pollutants of concern originate from land use. Pollutant is assumed to be produced by this land use unless otherwise proven by the project applicant.

[d] Based on 2006 EPA Guide to Stormwater Pollutant Concentrations.

Source: PCR Services Corporation, Inc., 2015

uses. With a population of nearly one million, water supply is limited and the majority of water use is from imported sources.

There are several pollutants of concern related to the receiving body of water. The Project site is located in the lower Dominguez Channel and Estuary subwatershed drainage area. Water quality in the watershed was assessed using available monitoring data, Total Maximum Daily Loads (TMDLs), 303(d) listed impairments, water quality thresholds listed in the Basin Plan for the Coastal Watersheds of the Los Angeles and Ventura Counties (Basin Plan) and the California Toxics Rule (CTR). Water-body pollutant combinations (WBPCs) were then categorized using the TMDLs, 303(d) listed impairments, and exceedance data for the Dominguez

Channel Estuary. WBPCs for which there were monitoring data were placed into one of the following three categories as outlined in the NPDES Permit:

- **Category 1 (Highest Priority):** Water body-pollutant combinations for which TMDLs have been established.
- **Category 2 (High Priority):** Pollutants for which data indicate water quality impairment in the receiving water according to the State's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (State Listing Policy).
- **Category 3 (Medium Priority):** Pollutants for which there are insufficient data to indicate water quality impairment in the receiving water according to the State's Listing Policy, but which exceed applicable receiving water limitations.

Table 4.G-2, *Dominguez Estuary Water Body Pollutant Categorization*, lists the categorized WBPCs.

Table 4.G-2

Dominguez Estuary Water Body Pollutant Categorization[a]

	Category 1	Category 2	Category 3
Dominguez Estuary (Unlined portion below Vermont)	Cadmium (sed.), Copper (diss. & sed.), Lead (diss., sed., & tissue), Zinc (diss. & sed.) DDT (tissue & sed.) PCBs (sed.) Chlordane (tissue & sed.) PAHs (sed.) Benthic Community Effects Sediment Toxicity	Ammonia Coliform Bacteria	Arsenic (sed.) Chromium (sed.) Silver (diss. & sed.) Nickel (diss.) Mercury (sed.) Thallium (diss.)

[a] *Adapted from Table A-6 Water Body Pollutant Categorization. Dominguez Channel Watershed Management Area Group, 2014. Draft Coordinated Integrated Monitoring Program For The Dominguez Channel Watershed Management Area Group. http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/dominguez_channel/DominguezChannel_CIMP.pdf, accessed 12/12/15.*

Source: PCR Services Corporation, Inc., 2015

(3) Water Supply

Based on the information included in the master plan, there are three water providers in the vicinity of the Harbor-UCLA Medical Center Campus; the Metropolitan Water District (MWD), the California Water Service Company's Rancho Dominguez District (CWS), and the City of Los Angeles Department of Water and Power (LADWP). The CWS owns and maintains distribution mains within the roadways around the Campus that range from six inches to 33 inches in diameter. CWS currently provides water to the Project site from CWS mains at four connection points, with a backup system connection off of the LADWP main that is not

continuously operational. CWS uses a combination of local groundwater and water purchased from MWD, which is imported from the Colorado River and the State Water Project in northern California. Reclaimed water is currently not provided to the Project site and the three area water suppliers do not have reclaimed water pipelines in the area.

(4) Hydrology

Based on information included in the *Preliminary Geotechnical Evaluation for the Harbor-UCLA Medical Center Master Plan*, prepared by Ninyo & Moore (Appendix C), the project site is located in the Torrance coastal plain west of the Los Angeles River and north of the Los Angeles Harbor. Topography of the site slopes gently down toward the east ranging from an approximate elevation of 40 feet above mean sea level (MSL) near the eastern portion of the project area to an approximate elevation of 50 feet above MSL in the western part of the project area. Off-site flows into and through the site are minimal as are ponding and flooding on-site. Natural surface waters are not located on-site. The Dominguez Channel is located approximately 2.7 miles north of the site and runs southeast.

The site does not appear to have water quality or stormwater controls, such as stormwater BMPs, LID features, or hydromodification management facilities. Stormwater detention via dry wells was implemented for the emergency/surgery replacement project. Rainfall and other stormwater runoff are managed by existing roof drains, catch basins, drain inlets, underground pipes, curbs, gutters, overland sheet flows, driveways, or other means of conveyance to the on-site storm drains.

(5) Storm Drainage

Rainfall and other stormwater runoff are managed by existing roof drains, catch basins, drain inlets, underground pipes, curbs, gutters, overland sheet flows, driveways, or other means of conveyance to the on-site storm drains. According to the Harbor-UCLA Campus Master Plan[2], The County of Los Angeles Flood Control District owns and maintains the 208th Street Storm Drain which runs through Harbor-UCLA in a 15-foot wide easement. This storm drain line runs through the site in the north-south direction as an 8-foot high by 4-foot wide reinforced concrete box culvert (RCB). Near 220th Street, it turns westerly and flows as an open channel in an easement toward Normandie Avenue. It joins with the 15.7 mile long Dominguez Channel which begins in the City of Hawthorne and eventually discharges to the east basin of the Los Angeles Harbor. Staining was not observed at the catch basins, drains, or channel on a site visits by Nino & Moore on March 4 and 18, 2015 as discussed in the Phase 1 Hazardous Materials Assessment Harbor-UCLA Medical Center (Appendix E of this Draft EIR).

On-site storm drain systems flow into the box culvert discussed above. The on-site storm drain network is operated and maintained by site staff. There are currently minimal problems with ponding and flooding. There were drainage issues previously in the southwest corner of the campus that were alleviated by a new connection to the County channel and some re-routing of the on-site drains. Staff has indicated that the on-site drainage system is very brittle and difficult to connect to. It is likely that proposed project would require an overhaul of the on-site drainage system. New connection to the RCB or open channel owned by the Flood Control District will require a connection permit. This permit will require a proposed hydrology analysis

[2] *County of Los Angeles, 2012. Harbor-UCLA Medical Center Campus Master Plan. http://ridley-thomas.lacounty.gov/PDFs/20120630_HARBOR%20UCLA%20MASTER%20PLAN.pdf, accessed 12/11/15*

and a comparison with the design peak flow rate of the existing facility. If the calculated peak flow rate exceeds the design peak flow rate of the facility, the District will generally require detention to mitigate the increase in peak flow rates.

(6) Groundwater

The Coastal Plain of Los Angeles County is made up of two groundwater basins, the Central Basin and the West Coast Basin. These basins are comprised of Quaternary age sediments of gravel, sand, silt, and clay that were deposited from the erosion of nearby hills and mountains, and from beaches and shallow ocean floors that covered the area in the past. Underlying these sediments are basement rocks such as the Pliocene Pico Formation that generally do not provide sufficient quantities of groundwater. Separating the Central Basin from the West Coast Basin is the Newport-Inglewood Uplift, a series of discontinuous faults and folds that form a prominent line of northwest trending hills including the Baldwin Hills, Dominguez Hills, and Signal Hill.[3] The Project site is located within the West Coast sub-basin of the Los Angeles Coastal Groundwater Basin.

The West Coast Basin covers approximately 140 square miles and is bounded on the north by the Baldwin Hills and the Ballona Escarpment, on the east by the Newport-Inglewood Uplift, to the south by San Pedro Bay and the Palos Verdes Hills, and to the west by the Santa Monica Bay. Aquifers in the West Coast Basin are generally confined and receive the majority of their natural recharge from adjacent groundwater basins or from the Pacific Ocean (seawater intrusion). Groundwater flow in the vicinity of the site is generally towards the East.[4] The Project site is not located near existing stormwater spreading grounds as shown in **Figure 4.G-1**, *Stormwater Spreading Grounds*. As such, stormwater runoff from the site would not recharge the existing stormwater spreading ground or introduce pollutants into the spreading ground.

(a) Depth to Groundwater

According to the *Preliminary Geotechnical Evaluation for the Harbor-UCLA Medical Center Master Plan*, prepared by Ninyo & Moore (Appendix C), historic groundwater monitoring well data from the State of California Water Resources Control Board's GeoTracker Website[5] were reviewed for wells located on adjacent properties east and north of the Project site. Based on the groundwater measurements in these wells from 2007 to 2014, groundwater levels at these locations have ranged from approximately 48 to 60 feet below the ground surface. The Los Angeles County Safety Element indicates that the historic high groundwater in the vicinity of the Project site is approximately 30 feet deep. Groundwater levels may be influenced by seasonal variations, precipitation, irrigation, soil/rock types, groundwater pumping, and other factors and are subject to fluctuations. Shallow perched conditions may be present on-site.

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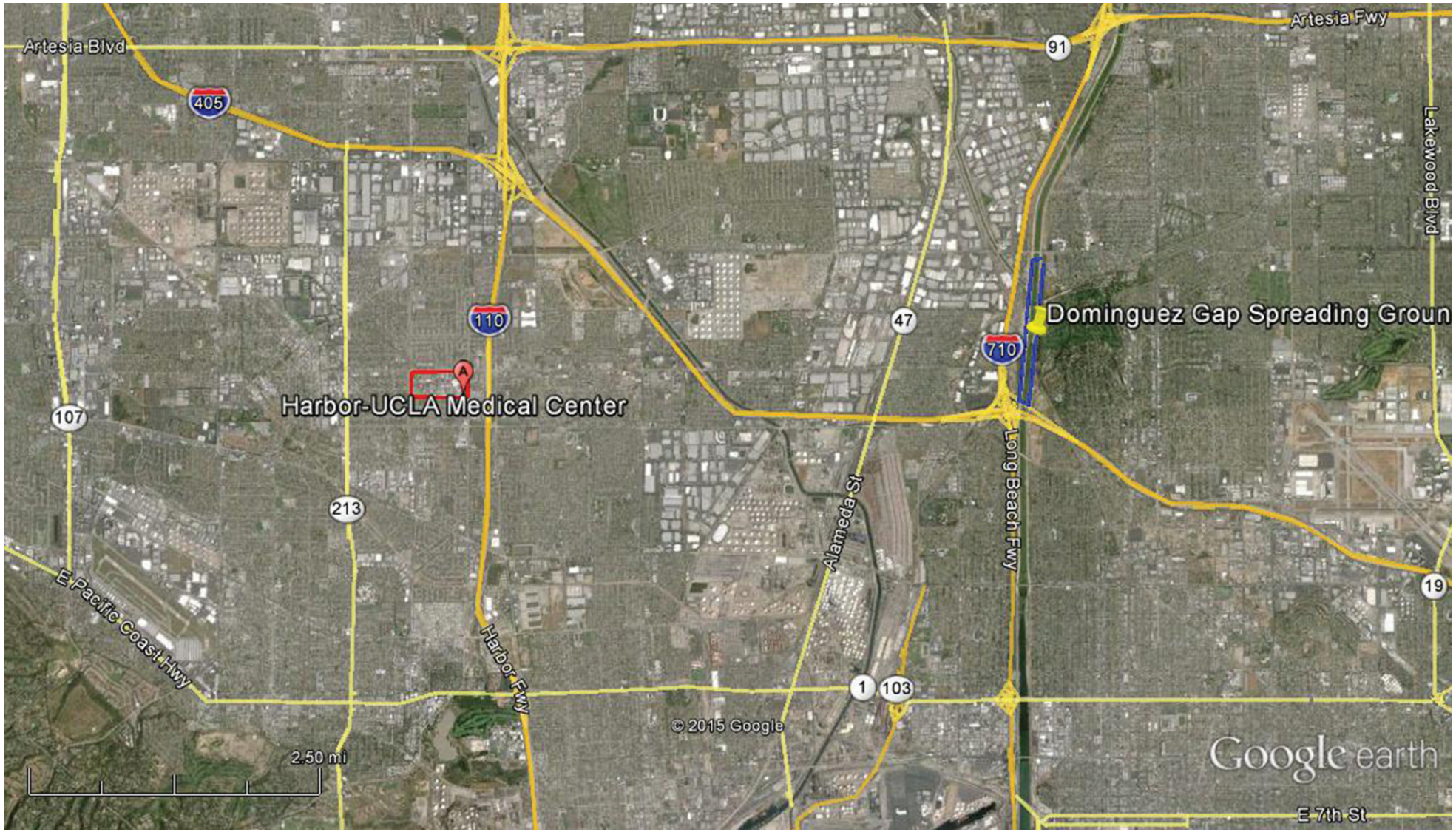
[3] *http://www.wrd.org/engineering/introduction-groundwater-basins-los-angeles.php. Accessed 12/13/15.*

[4] *Ibid.*

[5] *State of California Water Resources Control Board. http://geotracker.waterboards.ca.gov/gama/gamamap/public/default.asp?CMD=runreport&myaddress=harbor+ucla+medical+center%2C+carson%2C+ca. Accessed, April, 2015*



PCR

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0 2.50 Miles

Stormwater Spreading Grounds

Harbor-UCLA Medical Center Master Plan

Source: Google Earth, Data: Los Angeles County Department of Public Works http://dpw.lacounty.gov/wrd/spreadingground/SpreadingGroundMap.pdf.

FIGURE

4.G-1

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(b) Groundwater Contamination

According to the April 2015 Phase I Hazardous Materials Assessment Harbor-UCLA Medical Center prepared by Nino & Moore, based on the varying groundwater flow directions and proximity of several closed leaking underground storage tank cases adjacent to the site, there is a possibility that groundwater beneath the site is impacted with petroleum hydrocarbons from off-site facilities. This is considered a recognized environmental condition for the site.

(c) Groundwater Recharge

According to the *Preliminary Geotechnical Evaluation for the Harbor-UCLA Medical Center Master Plan*, prepared by Ninyo & Moore (Appendix C), exposed materials at the surface of the Project site include clays and silty sandy soils. Sandy soils typically have low cohesion, and have a relatively higher potential for erosion from surface runoff when exposed in cut slopes or utilized near the face of fill embankments. Surface soils with higher amounts of clay tend to be less erodible as the clay acts as a binder to hold the soil particles together. Based on this report, soil textures appear to be in the Type C soil group. This classification has typically low saturated hydraulic conductivity rates, normally in the range of 0.04 to 0.13 inch per hour. With the site's impervious cover, minimal recharge to the West Coast Basin occurs.

(7) Flooding/Dam Failure/Tsunamis/Seiches

Based on the *Preliminary Geotechnical Evaluation for the Harbor-UCLA Medical Center Master Plan*, prepared by Ninyo & Moore (Appendix C), and maps on the California Department of Conservation website[6], the project site is not located in a potential inundation area resulting from a dam failure, tsunami or seiche, nor is it located in a landslide/mudslide hazard zone. The proposed Project is not within a 100 year flood hazard area. A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. The Project site is located approximately 5.3 miles inland from the Pacific Ocean and 4.1 miles inland from the Los Angeles/Long Beach Harbor area. A seiche is a wave that oscillates in an enclosed water body, such as a reservoir, lake, or pond. There are no enclosed water bodies close to the Project site. The Project site is not located close to a dam, so dam failure is not an issue.

b. Regulatory Setting

The following subsections discuss the various codes, regulations and polices applicable to hydrology and water quality at the federal, state and local levels.

(1) Federal

(a) Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It is based on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit. Permit review is the CWA's primary regulatory tool. The CWA requires states to adopt water quality standards for receiving waters. Water quality standards designate beneficial uses for receiving waters (e.g., wildlife habitat, agricultural supply, fishing), and include the criteria required to support those uses. Water quality criteria are either narrative

[6] *http://www.conservation.ca.gov/cgs/maps/Pages/Maps.aspx. Landslide and Tsunami Inundation Maps accessed 12/13/15.*

statements related to the quality of the water that support a particular use or maximum concentration levels for pollutants (i.e., lead, suspended sediment, bacteria, etc.). As part of the CWA, when monitoring data indicate that a concentration level for a pollutant has been exceeded, the receiving water is classified as impaired and placed on the CWA Section 303(d) List of Water Quality–Limited Segments Requiring TMDLs (303[d] list). A Total Maximum Daily Load (TMDL) is then developed for the pollutant(s) that caused the impairment. A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (plus a "margin of safety"). The purpose of the TMDL is to limit the volume of pollutants discharged into the receiving water from all sources (i.e., Stormwater runoff, wastewater, agriculture).

(b) National Pollutant Discharge Elimination System Construction General Permit

The National Pollutant Discharge Elimination System (NPDES) was established per 1972 amendments to the Federal Water Pollution Control Act to control discharges of pollutants from point sources[7] (Section 402). The 1987 amendments to the CWA created a section devoted to Stormwater permitting (Section 402[p]), with individual states designated for administration and enforcement of the provisions of the CWA and the NPDES permit program. The State Water Resources Control Board (SWRCB) issues both Construction General Permits and Individual Permits under this program.

Projects that will disturb more than one acre of land during construction are required to file a Notice of Intent (NOI) with the SWRCB to be covered under the NPDES Construction General Permit for discharges of Stormwater associated with construction activity. The project proponent must develop measures that are consistent with the Construction General Permit. Furthermore, a Stormwater Pollution Prevention Plan (SWPPP) must be developed and implemented for each site covered under the Construction General Permit. The SWPPP describes the best management practices (BMPs) the discharger will use to protect Stormwater runoff and reduce potential impacts on surface water quality through the construction period. The SWPPP must contain the following:

- A visual monitoring program
- A chemical monitoring program for nonvisible pollutants (to be implemented if a BMP failure occurs)
- A sediment monitoring plan if the site discharges directly to a water body on the 303(d) list for sediment

The area that would be disturbed under the proposed Project exceeds one acre; therefore, the project would be required to comply with the Construction General Permit.

(c) Federal Antidegradation Policy

The Federal Antidegradation Policy was released in 1968 and was included in the USEPA's first Water Quality Standards Regulation. The Antidegradation Policy represents a three-tiered approach to maintaining and protecting water quality. First, all existing beneficial uses and levels of water quality necessary to protect those uses must be preserved and protected from degradation. Second, water quality must be protected in areas where the quality cannot support the propagation of fish, shellfish, and wildlife and recreation ("fishable/swimmable"). Third, the policy provides special protection of waters for which the

[7] *Point sources are discrete water conveyances such as pipes or man-made ditches.*

ordinary water quality criteria are not sufficient. These waters are called "Outstanding National Resources Waters" and have been designated as unique or ecologically sensitive.

If an activity is going to be allowed to degrade or lower water quality (in situations where existing water quality is higher than that needed to maintain established beneficial uses), the Antidegradation Policy requires that proposed projects meet the criteria below:

- The activity is necessary to accommodate important economic or social development in the area.
- Water quality is adequate to protect and fully maintain existing beneficial uses.

(d) National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program, which is based on the minimal requirements for floodplain management and is designed to minimize flood damage within Special Flood Hazard Areas. FEMA is the agency that administers the National Flood Insurance Program. Special Flood Hazard Areas (SFHA) are defined as areas that have a one-percent chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps were developed to identify areas of flood hazards within a community.

(2) State

(a) Porter-Cologne Water Quality Act

California's Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) established the SWRCB and divided the state into nine regional basins, each with a Regional Water Quality Control Board (RWQCB). The Project site is located within the jurisdiction of the Los Angeles RWQCB. The SWRCB is the primary state agency with responsibility to protect surface water and groundwater quality. The Porter-Cologne Act authorizes the SWRCB to draft policies regarding water quality in accordance with CWA Section 303. In addition, the Porter-Cologne Act authorizes the SWRCB to issue waste discharge requirements (WDRs) for projects that would discharge to state waters. These requirements regulate discharges of waste to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

The Porter-Cologne Act requires the SWRCB or the RWQCBs to adopt water quality control plans (basin plans) and policies for the protection of water quality. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State Water Policy. The Basin Plan must:

- Identify beneficial uses for the water to be protected,
- Establish water quality objectives for the reasonable protection of the beneficial uses, and
- Establish an implementation program for achieving the water quality objectives.

Basin plans also provide the technical basis for determining WDRs, taking enforcement actions, and evaluating clean water grant proposals. Basin plans are updated and reviewed every 3 years in accordance with Article 3 of Porter-Cologne and CWA Section 303(c).

(b) California Toxics Rule

The California Toxics Rule (40 CFR 131.38) is a USEPA-issued federal regulation that provides water quality criteria for potentially toxic constituents in California surface waters with designated uses related to human health or aquatic life. The rule fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. These federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA. The California Toxics Rule establishes two types of aquatic life criteria:

- Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time8 without harmful effects, and
- Chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects.

Due to the intermittent nature of stormwater runoff (especially in southern California), the acute criteria are considered to be more applicable to stormwater conditions than chronic criteria.

(c) State Antidegradation Policy

Under the State's Antidegradation Policy (as set forth in SWRCB Resolution No. 68-16), whenever the existing quality of waters is better than what is needed to protect present and future beneficial uses, such existing quality must be maintained. This State policy has been adopted as a water quality objective in all the State's Basin Plans. The State policy establishes a two-step process to determine if discharges with the potential to degrade the water quality of surface or groundwater will be allowed.

The first step requires that, where a discharge would degrade high-quality water, the discharge may be allowed only if any change in water quality would:

- Be consistent with the maximum benefit to the people of the State;
- Not reasonably affect present and anticipated beneficial uses of such water;
- Result in water quality that is not less than that which is prescribed in State policies (i.e., Basin Plans).

The second step (as set forth in SWRCB Resolution No. 68-16) states that any activity resulting in discharge to high-quality waters is required to use the best practicable treatment or control of the discharge necessary in order to avoid the occurrence of pollution or nuisance and to maintain the "highest water quality consistent with the maximum benefit to the people of the state". The State policy applies to both surface and groundwater, as well as to both existing and potential beneficial uses of the applicable waters.

In 1999, the SWRCB issued and subsequently amended the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), which governs discharges from construction sites that disturb one acre or more of surface area. Again, on September 2, 2009, the SWRCB adopted a new General Construction Permit that substantially alters the approach taken to regulate construction discharges through (1) requiring the

[8] *The rule does not specify timeframe for "acute". Standard practice would likely imply that any condition that is permanent or semi-permanent is chronic; all else would be short-term.*

determination of risk levels posed by a project's construction discharges to water quality and (2) establishing numerical water quality thresholds that trigger permit violations. These new permit regulations took effect on July 1, 2010.

(3) Local

(a) Water Quality Control Plan, Los Angeles Region

As required by the California Water Code, the LARWQCB has adopted the "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (LA Basin Plan). Specifically, the LA Basin Plan designates beneficial uses for surface water and groundwater, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's Antidegradation ppolicy, and describes implementation programs to protect all waters in the Los Angeles region. In addition, the LA Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the LA Basin Plan.[9]

(b) Municipal Storm Water Permitting

As part of its NPDES Program, the Los Angeles RWQCB adopted a new Municipal Separate Storm Sewer Permit (MS4 Permit, sometimes referred to as a Stormwater Permit) in 2012. MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (between 100,000 and 250,000 people) and large (more than 250,000 people) municipalities. As part of Phase II, the SWRCB adopted a General Permit for small MS4s (than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and prison and hospital complexes (WQ Order No. 2003-0005-DWQ).

The Los Angeles RWQCB's 2012 MS4 Permit named 84 incorporated cities, the County, and the Los Angeles County Flood Control District as permittees. The MS4 Permit imposes a number of basic programs, called Minimum Control Measures, on all permittees in order to maintain a level of acceptable runoff conditions through the implementation of practices, devices, or designs generally referred to as BMPs, that mitigate stormwater quality problems. As an example, the development construction program requires the implementation of temporary BMPs during a project's construction phase to protect water resources by preventing erosion, controlling runoff, protecting natural slopes and channels, storing fluids safely, managing spills quickly, and conserving natural areas.

(c) Los Angeles County Low-Impact Development Ordinance

In December 2012, the Los Angeles County Board of Supervisors updated the County Low Impact Development (LID) Ordinance (Chapter 12.84 of the County Code [LACC]) for compliance with the 2012 LARWQCB MS4 Permit. The updated LID Ordinance requires the integration into project design an array of feasible design features and operational practices for the retention, detention, storage, and filtration of stormwater and urban runoff, prior to discharge off-site. LID generally relies on an integrated system of

[9] *California Regional Water Quality Control Board, Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted June 13, 1994 http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/. Accessed June 16, 2015.*

decentralized, small-scale control measures that can be implemented at a project site, using structural devices, engineered systems, vegetated natural designs, and other techniques to control stormwater and urban runoff on-site and not solely through off-site conveyance or at an off-site collection point.

(d) Los Angeles County General Plan Update (2035)

The California Government Code Section 65300 requires general plans to include "a conservation element, which includes evaluation of water resources for supply and demand. As such, the Los Angeles County General Plan Update (2035) Conservation and Natural Resource Element (Chapter 9, Section IV, Local Water Resources) addresses water management as an invaluable resource and effective management and preservation of local water resources are vital to preserving a high quality of life for residents and businesses, as well as for sustaining the functioning of watersheds and the natural environment. Applicable goals and polices from the Safety Element are identified below:

Goal C/NR 5: Protected and useable local surface water resources.

- **Policy C/NR 5.1:** Support the Low Impact Development (LID) philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales.

- **Policy C/NR 5.3:** Actively engage with stakeholders in the formulation and implementation of surface water preservation and restoration plans, including plans to improve impaired surface water bodies by retrofitting tributary watersheds with LID types of BMPs.

- **Policy C/NR 5.4:** Support the retrofitting of unreinforced masonry structures to help reduce the risk of structural and human loss due to seismic hazards.

Goal C/NR 6: Protected and usable local groundwater resources.

- **Policy C/NR 6.1:** Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.

- **Policy C/NR 6.2:** Protect natural groundwater recharge areas and regional spreading grounds.

- **Policy C/NR 6.3:** Actively engage in stakeholder efforts to disperse rainwater and stormwater infiltration BMPs at regional, neighborhood, infrastructure, and parcel-level scales.

- **Policy C/NR 6.5:** Prevent stormwater infiltration where inappropriate and unsafe, such as in areas with high seasonal groundwater, on hazardous slopes, within 100 feet of drinking water wells, and in contaminated soils.

Goal C/NR 7: Protected and usable local groundwater resources.

- **Policy C/NR 7.1:** Support the LID philosophy, which mimics the natural hydrologic cycle using undeveloped conditions as a base, in public and private land use planning and development design.

- **Policy C/NR 7.3:** Actively engage with stakeholders to incorporate the LID philosophy in the preparation and implementation of watershed and river master plans, ecosystem restoration projects, and other related natural resource conservation aims, and support the implementation of existing efforts, including Watershed Management Programs and Enhanced Watershed Management Programs.

3. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Surface Hydrology and Drainage

The analysis of hydrology impacts is based on post project runoff rates during storm events calculated for the Harbor-UCLA Master Plan. Potential impacts to the storm drain system were analyzed by comparing the calculated pre-project runoff rates to the calculated post-project runoff rates, taking into consideration the capacity of the existing storm drain systems serving the site.

(2) Water Quality

Water quality impacts were assessed by considering the types of pollutants and/or effects on water quality likely to be associated with construction and operation of the project, project design features to treat contaminants, and expected contaminant flows with project implementation. Project consistency with relevant regulatory permits/requirements, including BMPs and applicable plans, is evaluated to demonstrate how compliance would ensure that the project would not significantly degrade existing water quality.

(3) Flooding

Flooding impacts were addressed in consideration of applicable safety policies of the County's General Plan Safety Element and the design requirements within the County's Municipal Code. A determination was made as to whether such policies, procedures, and regulatory requirements would adequately address potential flooding hazards on the site.

(4) Groundwater

Groundwater impacts were evaluated by estimating the domestic water demands of the proposed project, a portion of which is provided by local groundwater basins, relative to the safe yield of affected aquifers.

b. Thresholds of Significance

The potential for hydrology and water quality impacts is based on thresholds derived from the County's Initial Study Checklist questions, which are in part based on Appendix G of the State CEQA Guidelines. These questions are as follows:

(IX) Hydrology and Water Quality. Would the project:

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

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

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

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

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

f) Otherwise substantially degrade water quality?

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

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

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

j) Inundation by seiche, tsunami, or mudflow?

The Initial Study determined that the Project would have less than significant impacts with respect to Checklist questions IX.g), h), i), and j. Accordingly, these environmental topics are not evaluated in this EIR.

Based on the above factors, the Project would have a potentially significant impact on Hydrology and Water Quality if it would:

HWQ-1: Violate any water quality standards or waste discharge requirements.

HWQ-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)

HWQ-3: Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

HWQ-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 that would result in flooding on- or off-site.

HWQ-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.

HWQ-6: Otherwise substantially degrade water quality.

c. Project Characteristics or Design Features

The Project would comply with all applicable requirements and permits related to stormwater management and water quality. As part of this, construction plans for individual components of the Harbor-UCLA Medical Center Master Plan Project would be reviewed by the County to confirm implementation of the appropriate temporary construction and permanent operational BMPs for compliance with the SWRCB's Construction General Permit, the County-administered MS4 permit, and the County's LID ordinance.

d. Project Impacts

Threshold HWQ-1: Would the Project violate any water quality standards or waste discharge requirements?

Impact Statement HWQ-1: *With compliance with regulatory requirements governing stormwater management and water quality during construction and following buildout of master Plan Project components, impacts on water quality or related to waste discharge (i.e., construction dewatering) would be less than significant.*

(1) Construction

Construction activities would include the use of heavy equipment and construction-related chemicals, such as fuels, oils, grease, solvents, and paints that would be stored in limited quantities on-site. In the absence of proper controls, these construction activities could result in accidental spills or disposal of potentially harmful materials that could wash into and pollute surface waters or groundwater. During construction, portions of the Harbor-UCLA Campus would be subject to ground-disturbing activities (e.g., removal of the existing structures and pavement, excavation and grading, foundation and infrastructure construction, and the installation of utilities). These activities would expose soils for a limited time, allowing for possible erosion and sediments to enter into sheet flow runoff, which could enter the existing storm drain system untreated. Therefore, surface water quality could be temporarily affected by construction activities.

However, the Project would be subject to existing regulations governing water quality. Construction General Permits would be required from the SWRCB for individual Project components of the. The Construction General Permit and associated NPDES requirements include development and implementation of a SWPPP with appropriate NMPs, as well as associated monitoring and reporting. Stormwater BMPs are intended to limit erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. BMPs could include, but are not limited to, the use of or implementation of water bars, silt fences, staked straw bales, and avoidance of water bodies during construction. Additional source-control BMPs might also be required to prevent runoff contamination by potentially hazardous materials and eliminate non-stormwater discharges.

Compliance with the Construction General Permit, SWPPP, and NPDES requirements that require construction phase BMPs are considered protective of water quality during construction and would, therefore, prevent a substantial violation of water quality standards and minimize the potential for contributing additional sources of polluted runoff during construction of the project. These existing regulations, programs, and policies would ensure that water- and wind-related erosion would be confined to the construction area and not transported off-site, and therefore ensure construction activities would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB and/or other regulatory agencies or affect the beneficial uses of receiving waters. Compliance with regulatory requirements would ensure that construction of Master Plan Project components would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to the Dominguez Channel. In addition, the topographic gradients on the Harbor-UCLA Campus are relatively gentle.

The potential for any spill or release of construction related chemicals during Project construction would be generally small because of the localized, short-term nature of the releases. Furthermore, the NPDES Construction General Permit and SWPPP require measures regarding the handling of these types of materials and action protocols if a spill or release does occur. Therefore, potential soil erosion and sedimentation impacts during construction would be less than significant and no mitigation is required.

According to the *Preliminary Geotechnical Report* prepared for the Project (Appendix C), groundwater levels have ranged from approximately 48 to 60 feet below ground surface (bgs). Based on the depths to groundwater within the project site, construction dewatering is not anticipated to be required. However, should groundwater be encountered that would require dewatering, the County would require contractors for individual Project components to apply for coverage and adhere to the monitoring and reporting program under RWQCB Order No. R8-2009-0003. Compliance with these regulatory requirements would ensure that dewatering activities would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to Dominguez Channel. Based on the above, construction-related dewatering impacts would be less than significant.

(2) Operations

Stormwater discharge is generated by rainfall that runs off the land and impervious surfaces such as paved streets, parking lots, and rooftops. Stormwater discharge may include pollutants of concern, which are those that are expected to be generated by the project and that could impact stormwater. During operation of the Project, pollutants of concern within runoff may include, but are not limited to, pollutants such as sediment, hydrocarbons, oil, grease, heavy metals, nutrients, herbicides, pesticides, fecal coliform bacteria, and trash.

This runoff can flow directly into storm drains and continue through pipes until it is released, untreated, into the Dominguez Channel. Untreated stormwater runoff degrades water quality in surface waters and groundwater and can affect drinking water, human health, and plant and animal habitats.

Reducing natural resource demands is a key goal of the Master Plan Project. By utilizing landscape in strategic ways it can perform a variety of tasks beyond aesthetics including lowering potable water demands, reducing heat island effects, and mitigating building cooling demands. Landscape plans call for the use of native or culturally native (adaptive) low-maintenance species, which would be maintained by workers who are trained to work with native California landscapes. In addition, the Project would rely on its landscape to reduce dependency on natural resources by reducing water demands, capturing and cleaning stormwater runoff, and shading buildings to help reduce cooling demands. The Project would convert more than three acres of existing turf area to low water use plants, saving an estimate seven million gallons of water per year over current usage. The Project would introduce new trees in surface parking areas to create a dense canopy of shade which will reduce the asphalt's solar absorption rate, allowing surrounding buildings to cool down earlier in the evening, reducing the urban heat island effect. Furthermore, the Project proposes to incorporate green roofs, which will help reduce buildings' solar absorption and cooling demands during warmer daytime hours. The Project would avoid the use of pollutants, chemicals, or soil amendments that could harm the human or ecological health. Organic maintenance methods or Integrated Pest Management may be used.

Any proposed new storm drain connections to the RCB or open channel owned by the Flood Control District will require a connection permit. This permit will in turn require a proposed hydrology analysis and a comparison with the design peak flow rate of the facility. If the calculated peak flow rate exceeds the facility's design peak flow rate, the District will generally require detention to mitigate the increase in peak flow rates.

As discussed, the Harbor-UCLA Campus is currently fully developed and would be required to capture and infiltrate or reuse the difference in volume during the 0.75-inch storm event between a developed site and the site in an undeveloped condition (0 percent impervious,) where feasible based on the LID Standards. The County also requires that the 0.75-inch rainfall event be treated to remove urban stormwater pollution. Based on information provided in the Harbor-UCLA Master Plan, the required treatment flow rate is approximately 0.17 cubic feet per second (cfs) per acre based on a flow rate design and the required treatment volume is approximately 2,200 cubic feet per acre based on a volume design. The excess volume to be infiltrated, reused, or stored is approximately 1,940 cubic feet per acre. Previously approved grading plans for the emergency/surgery replacement building indicate that several dry wells were constructed in the area of new construction to meet this requirement; this approach is likely to be implemented for future areas to be redeveloped on the Campus.[10]

Additionally, the incorporation of LID requirements is a significant element of the proposed site sustainability approach and LID features would meet the requirements found in the County's *Low-Impact Development Standards Manual*. The LID features would provide treatment control through physical, biological, and chemical processes to remove pollutants from stormwater runoff. Potential LID features

[10] *Campus Master Plan Addendum, County Of Los Angeles Harbor-UCLA Medical Center, Phase 04-F, Civil – Facilities and Utilities Assessment, page F-10.*

include: bioretention/rain gardens, strategic grading, resource conservation, flatter wider swales, flatter slopes, long flow paths, tree/shrub depression, turf depression, landscape island storage, rooftop detention/retention, roof leader disconnection, parking lot/street storage, smaller culverts/pipes/inlets, amended soils, alternative materials, tree box filters, alternative impervious surfaces, reduce impervious surface, rain barrels/cisterns/water use, catch basins/seepage pits, sidewalk storage, vegetative swales/buffers and strips, infiltration swales and trenches, eliminate curb and gutter, dry well, maximize sheet flow, maintain drainage patterns, green roofs, and permeable pavement. An illustration of the type and location of the Project's proposed BMPs is provided in **Figure 4.G-2,** *Potential LID Strategies*. The Project will also increase the amount of pervious area on the Harbor-UCLA Campus, which will reduce the calculated peak flow of stormwater runoff.

Provided that LID features (especially the design of any bioretention features) include modifications to address the potential leaching of nutrients, compliance with County LID criteria and other state and local regulations that require post-construction BMPs would ensure that operations on the Harbor-UCLA Campus would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters.

Following buildout of Project components, materials such as fuels or solvents may be stored on-site, similar to existing conditions. This is not anticipated to be a source of polluted stormwater runoff or dry-weather runoff. As under existing conditions, Harbor-UCLA would continue to adhere to all applicable regulations.

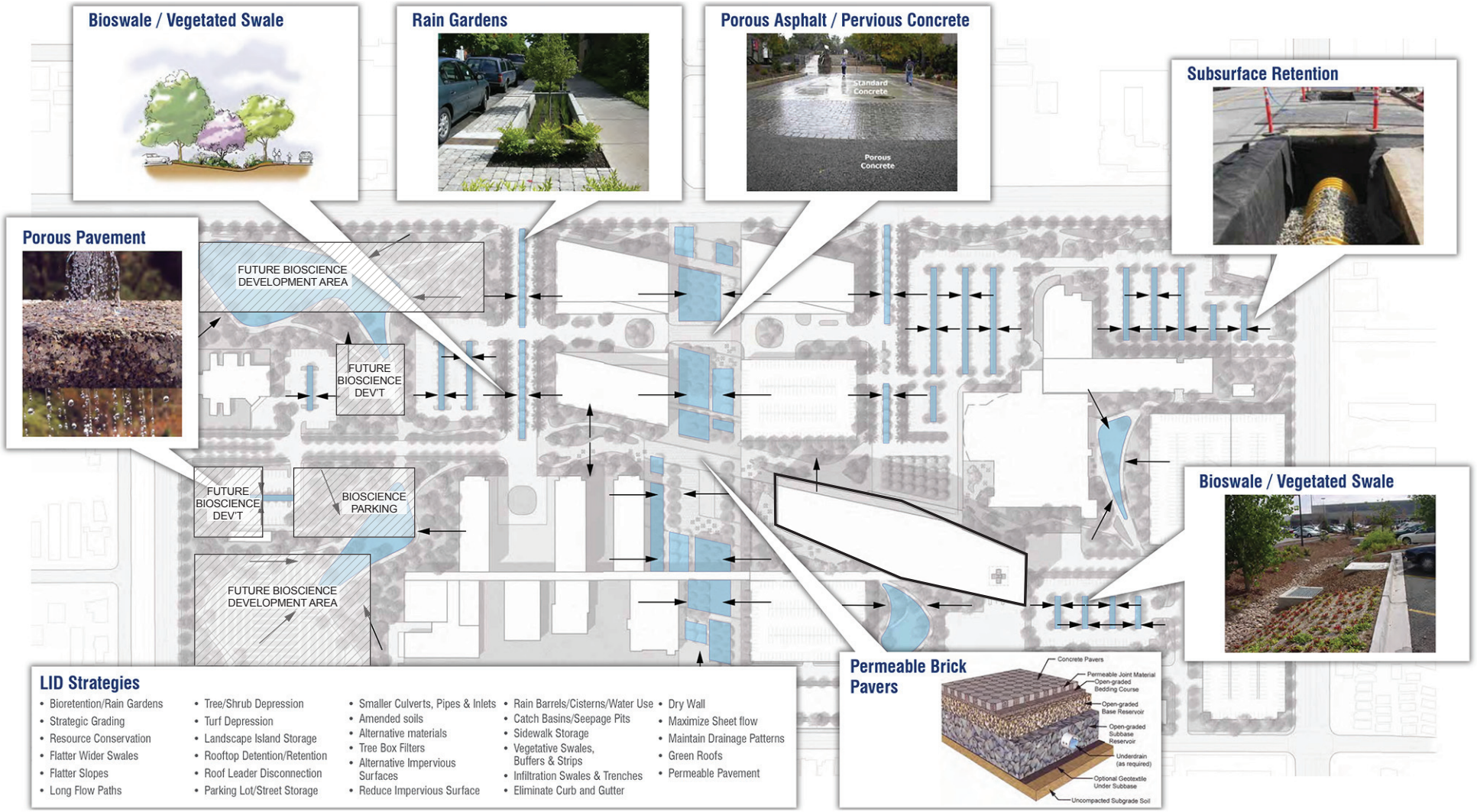
Accordingly, operations would not result in a violation of any water quality standards or waste discharge requirements, would not create substantial additional sources of polluted runoff, and would not substantially degrade water quality, and would therefore be less than significant.

Threshold HWQ-2: Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge?

Impact Statement HWQ-2: *Project-related excavation is not expected to extend to the depth of groundwater beneath the Harbor-UCLA Campus, with only temporary dewatering anticipated in the event seepage is encountered at shallower depths than anticipated. Project implementation would increase pervious area on the Campus over existing conditions through the introduction of more landscaped area and does not propose withdrawal of groundwater to meet water demand. The Project's indirect employment-related population growth would not substantially increase demand on groundwater supplies serving the Project Site, thus impacts regarding groundwater supplies would be less than significant.*

(1) Construction

Construction activities are not expected to require excavation below the normal or seasonally high groundwater levels. However, if seepage is encountered during construction, dewatering may be necessary. Any seepage encountered during construction would be mitigated, as needed, by constructing small drainage swales from the base of the excavations to temporary sump pits or existing LID features on-site.



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Stormwater Spreading Grounds

Harbor-UCLA Medical Center Master Plan

Source: County of Los Angeles, Harbor-UCLA Medical Center Campus Master Plan, June 2012.

FIGURE
4.G-2

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Any discharge of groundwater during construction would be implemented in compliance with applicable NPDES permit requirements. The Project would also comply with all applicable federal, state, and local requirements concerning the handling, storage, and disposal of hazardous materials to reduce the potential for a release of contaminants into the groundwater as a result of project construction. Thus, construction activities would not degrade groundwater quality or interfere with recharge and impacts would be less than significant.

(2) Operation

Under the Master Plan Project, water demand is projected to increase as the result of intensified use of facilities and a greater amount of landscaping on the Campus. Water usage is likely to increase following Project buildout because of the increased number of employees and, potentially, patients using Harbor-UCLA Medical Center facilities. However, increased regional water demand is primarily a function of population growth, and as the Project would not directly or indirectly result in substantial population growth in the area, it would not significantly increase demand for water supplies, including groundwater serving the Project area. Additionally, indoor fixtures would comply with applicable Municipal Codes requirements related to reducing indoor water consumption through maximum flow rates for indoor water fixtures. These requirements would limit potential increases in indoor water usage on the Campus. See Section 4.M.1, Water Supply, of this Draft EIR for further discussion of Project-related water demand and supply.

As previously stated, Harbor-UCLA receives its water supplies from CWS, which draws on a combination of local groundwater (i.e., the Central Basin) and water purchased from MWD. At Project buildout, the amount of pervious area on the Campus will be increased, which may incrementally increase recharge of the West Basin through infiltration based on the LID features implemented to reduce off-site discharge of stormwater and dry weather runoff. However, the increase in landscaped area on the Campus is expected to increase the need for irrigation over existing conditions. Current lawn areas will be reduced and planted with drought-tolerant plants reducing water usage. The proposed plant palette would include drought-tolerant and California native plants in compliance with the County's landscape ordinance, and therefore the use of plant species with high to moderate water needs would be limited.

Reclaimed water is currently not provided to the Project Site and the irrigation system is supplied by the CWS municipal domestic water system. Future opportunities for potential water sources for irrigation use include continuing with the municipal water supply, a future municipal recycled water supply, an on-site integrated stormwater management system, and/or an on-site recycled water system. Any of proposed recycled water systems or the on-site integrated stormwater management system would reduce the use of potable water.

The Master Plan Project would not involve any groundwater extraction or other activities that could result in direct withdrawal or depletion of groundwater supplies. As noted above, a portion of the Medical Center's water supply is provided by groundwater from local aquifers, and as such the implementation of the proposed Project would indirectly increase demands on the groundwater basins. However, the Project would not result in any adverse impacts to the local water supplies, including groundwater resources, as although the proposed development was not specifically accounted for in the most recently adopted Urban Water Management Plan (UWMP) for the Medical Center Campus service area, the Water Supply Assessment prepared for the Master Plan Project (included in Appendix I of this Draft EIR) demonstrates that adequate water supplies are available to meet projected demands. As the Project would not directly affect

groundwater resources, and indirect demands on local groundwater supplies would not exceed available supplies, impacts on groundwater resources would be less than significant.

Threshold HWQ-3: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

Impact Statement HWQ-3: *The Project would redevelop the already fully developed Harbor-UCLA Campus, and, with compliance with NPDES regulations and County LID requirements governing construction and post-project stormwater management and water quality, would not substantially alter existing drainage patterns in a manner that would result in substantial erosion or siltation.*

(1) Construction

Grading and excavation would be required for building foundations, which could affect drainage on the sites of specific Master Plan Project components. However, as the site is currently fully developed, the proposed Project would not substantially alter the existing drainage pattern of the site or result in substantial erosion or siltation. Standard construction phase BMPs required for compliance with NPDES requirements would decrease the potential for any significant erosion or sedimentation from soil disturbance associated with construction. There are no streams or rivers nearby whose course would be altered by the proposed Project.

Any potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary (i.e. during construction). NPDES compliance would require contractors to implement measures to minimize and contain erosion and sedimentation and be required to submit a grading plan to the County for approval prior to the commencement of any construction activities. In addition, where proposed construction for a specific Master Plan Project component would disturb more than one acre, the project proponent would be required to obtain and comply with the NPDES Construction General Permit. The permit would require a SWPPP and compliance with County requirements to meet state water quality objectives. Pending possible revisions as of this writing, the NPDES permitting process may also require development of a rain-event action plan prior to permit approval. Construction-related erosion and sedimentation impacts resulting from soil disturbance would be less than significant after implementation of the SWPPP (see MM-HWQ-1) and the BMPs required to control erosion and sedimentation.

(2) Operation

As previously stated, the amount of landscaped area would increase following Project buildout over existing conditions. Moreover, for each Project component, Harbor-UCLA would be required to identify and implement appropriate LID compliance features and practices include structural BMPS such as filtration, runoff-minimizing landscaping for common areas, and energy dissipaters, which would reduce peak runoff volumes as well as the overall amount of runoff discharged compared to existing conditions. Therefore, over time, Project implementation is expected to improve stormwater management conditions on the Harbor-UCLA Campus and reduce the potential for erosion and sedimentation.

Threshold HWQ-4: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

Impact Statement HWQ-4: *The Project would redevelop the already fully developed Harbor-UCLA Campus and would not substantially alter existing topography or affect the course of any streams or rivers. Neither construction nor operations would increase surface runoff in a manner that would result in flooding. Therefore, impacts on existing drainage patterns of the Project site would be less than significant.*

(1) Construction

The Harbor-UCLA Campus is already developed and proposed grading and excavation would not substantially alter its overall topography. Water used during construction (e.g. for dust compression) would be mechanically and precisely applied and would infiltrate or evaporate. Project-related excavation is not expected to intercept groundwater, and in the event of possible seepage within excavations, temporary dewatering would be conducted in accordance with NPDES requirements governing such discharges.

(2) Operation

As previously stated, Project buildout would not substantially alter the existing drainage patterns on the Harbor-UCLA Campus, Project area, or receiving waters, or result in substantial erosion or siltation on- or off-site. Future Project hydrologic boundaries and off-site storm drain infrastructure serving the Campus will closely match existing conditions. With the increase in pervious area, the calculated peak flow of the future development will generally be less than under existing conditions; in addition, any future site development will require compliance with County of Los Angeles and LID standards for stormwater management. As such, the project would not result in a substantial increase in the rate or amount of surface runoff or result in flooding on-or-off-site. Impacts would be less than significant.

Threshold HWQ-5: Would the Project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Impact Statement HWQ-5: *With adherence to County connection permit requirements and compliance with County LID requirements, the volumes of runoff discharged to the County's storm drain system following Project buildout would be similar or reduced compared to existing conditions and would not provide additional sources of polluted runoff; impacts would be less than significant.*

(1) Construction and Operation

As previously stated, future Campus hydrologic boundaries and off-site storm drain infrastructure serving the Campus will closely match existing conditions. The backbone of the drain system will continue to be the County-owned and operated 208th Street Storm Drain, an 8-foot by 4-foot RCB culvert which runs beneath the Medical Center in a north-south 15-foot wide easement, daylighting into an open culvert that parallels 220th Street and discharges to the underground network at Normandie Avenue to the west. Since the design of future Project facilities is presently conceptual, it is unknown whether new connections to the 228th

Street Storm Drain may be required as part of the Project, but it is considered likely due to the age and brittle condition of the system. However, future connections would require a connection permit from the County Flood Control District, which will in turn require a hydrology analysis and comparison with the design peak flow rate of the facility. As previously discussed, the County will require stormwater detention if the calculated peak flow rate exceeds the facility's design peak flow rate. Stormwater management infrastructure constructed for individual Project components would be constructed in compliance with permit and LID requirements and include upgraded infrastructure sized for future stormwater volumes.

The County of Los Angeles determines the allowable amount of runoff that can enter its system based on historical records. It is likely that the flow rate allowed at connections to the County Storm Drains will be required to match the original system design flow rate. As previously stated, new development in Los Angeles County is required to capture and infiltrate or reuse the difference in volume during the 0.75-inch storm event between a developed site and the site in an undeveloped condition (i.e. 0 percent impervious) where technically feasible. In addition, a developed site is required to treat the entire 0.75-inch rainfall to remove urban stormwater pollution. In addition to the LID requirements set for the LID manual, the County also establishes hydromodification requirements that require the difference in peak flow rate, flow velocity, total volume, and depth/width of flow for the 2-, 5-, 10-, 25-, and 50-year storm with several exceptions. One exception is for proposed projects that do not add net new impervious area. Since the Harbor-UCLA Campus is fully developed and highly impervious, the hydromodification requirement will likely not apply to the Project.

With the increase in pervious area, an integrated stormwater management approach and the implementation of the County LID Standards, the requirements to detain flows to meet existing design flow rates will be minimized. Peak flow rates and runoff volumes from the Campus would be the same or lower compared to existing rates/volumes and would not affect the capacity or hydraulic integrity of the existing County storm drain system. Impacts related to the volume of runoff from the Harbor-UCLA Campus on the capacity of the County's storm drain infrastructure, and related to the potential for additional polluted runoff compared to existing conditions, would be less than significant.

Threshold HWQ-6: Would the Project otherwise substantially degrade water quality?

Impact Statement HWQ-6: *With compliance with County NPDES and LID requirements, the Project is not anticipated to substantially degrade water quality.*

(1) Construction

Impacts HWQ-1 though HWQ-5 discuss potential impacts associated with the degradation of water quality during construction. During construction, the Project would be required to adhere to the NPDES Construction General Permit to control erosion and protect water quality. Therefore, the Project would not create or contribute runoff that would exceed the capacity of drainage systems or provide substantial sources of polluted runoff. There are no other methods by which water quality could be degraded as a result of construction on the Project site, and impacts would be less than significant.

(2) Operation

Impacts HWQ-1 through HWQ-5 discuss potential impacts associated with degradation of water quality during Project operations. Prior to the start of individual Project component construction activities, Harbor-UCLA would be required to prepare and submit drainage plans for County approval, which would include post-Project structural and nonstructural BMPs. There are no other methods by which water quality could be degraded as a result of operations on the Project site. Impacts associated with potential degradation of water quality during Project operations would be less than significant.

e. Cumulative Impacts

The geographic scope for cumulative impacts related to water quality and hydrology encompasses the project site and the land uses within a 1-mile radius of the Project site. Other projects in the general vicinity of the proposed Project include a variety of housing, (apartments, condos, single-family), mixed-use, retail, and office and medical spaces. All of these projects have the potential to result in construction-period water quality impacts, which could result in cumulatively significant impacts. However, compliance with the Construction General Permit, SWPPP, and NPDES requirements, and local regulations that require construction phase BMPs would ensure that construction activities would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters. Construction would not result in a violation of any water quality standards or waste discharge requirements, would not provide substantial additional sources of polluted runoff, and would not substantially degrade water quality. Compliance with construction phase permits and standard construction phase BMPs would decrease the potential for any significant erosion or sedimentation from soil disturbance associated with construction of the projects. During construction the amount of stormwater runoff is also anticipated to be less than or equal to the amount under existing conditions. Therefore, the cumulative effects would be less than significant.

Compliance with County LID criteria as well as state and local regulations that require post construction BMPs would ensure that the operation of related projects would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters. The Project would also be required to comply with all applicable federal, state, and local requirements concerning handling, storage, and disposal of hazardous materials to reduce the potential for the release of contaminants into groundwater as a result of project construction or operation. Therefore, construction and operation activities would not degrade groundwater quality or interfere with recharge and the cumulative effects would be less than significant.

4. MITIGATION MEASURES

Potential impacts related to hydrology and water quality would be less than significant with compliance with applicable regulatory requirements. Therefore, no mitigation measures are required.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potential impacts related to hydrology and water quality would be less than significant with compliance with applicable regulatory requirements.