

IV. Environmental Impact Analysis

L.1 Utilities and Service Systems—Water Supply and Infrastructure

1. Introduction

This section of the Draft EIR provides an analysis of the Project’s potential impacts with regard to water supply and the water conveyance system serving the Project Site. This section includes a description of regional water supplies and the existing water infrastructure serving the Project Site, estimates the water demand associated with the Project, and assesses whether there is sufficient water supply and infrastructure capacity to meet that demand. The analysis is based in part on the Water Supply Technical Memorandum prepared by Psomas, dated March 31, 2017. The memorandum is included as Appendix T of this Draft EIR.

2. Environmental Setting

a. Regulatory Framework

(1) State

(a) California Urban Water Management Plan Act

The California Urban Water Management Planning Act (California Water Code, Sections 10610–10656) addresses several state policies regarding water conservation and development of water management plans to ensure the efficient use of available supplies. The California Urban Water Management Planning Act also requires water suppliers to develop water management plans every five years to identify short-term and long-term demand management measures to meet growing water demands during normal, single dry, and multiple dry years. Specifically, municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet per year (AFY) of water must adopt an urban water management plan (UWMP).

(b) Senate Bill X7-7 (California Water Code Section 10608)

Senate Bill X7-7 (SB X7-7), codified in California Water Code Section 10608 requires all water suppliers to increase water use efficiency. This legislation sets an overall

goal of reducing per capita urban water use, compared to 2009 use, by 20 percent by December 31, 2020. SB X7-7 requires cities to establish a per capita water use target for the year 2020, as well as interim targets.

(c) Senate Bill 610 (Water Code Sections 10910 et seq.)

Senate Bill 610 (SB 610), codified in the California Water Code, Sections 10910 et seq., became effective January 1, 2002. SB 610 requires counties and cities to consider the availability of adequate water supplies for certain new large development projects as part of the California Environmental Quality Act (CEQA) process. Specifically, SB 610 requires that for certain projects subject to CEQA, the urban water supplier must prepare a water supply assessment (WSA) that determines whether the projected water demand associated with a project is included as part of the most recently adopted UWMP. The WSA shall identify existing water supply entitlements, water rights, or water service contracts held by the public water system, and prior years' water deliveries received by the public water system. In addition, it must address water supplies over a 20-year future period and consider average, single dry, and multiple dry years. In accordance with Water Code Section 10912, projects subject to CEQA requiring submittal of a WSA include the following:

- Residential developments of more than 500 dwelling units;
- Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- Hotels, motels, or both, having more than 500 rooms;
- Industrial, manufacturing, or processing plant, or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons;
- Mixed-use projects that include one or more of the above-identified categories; or
- A project that would demand an amount of water equivalent to or greater than the amount of water required by a 500-dwelling-unit project.

The WSA must be approved by the public water system at a regular or special meeting and must be incorporated into the CEQA document. The lead agency must then make certain findings related to water supply based on the WSA.

As described in Section II, Project Description, of this Draft EIR, the Project would include the development of approximately 95,000 square feet of retail uses, a 55,000-square-foot grocery store, a 25,000-square-foot fitness/health club, approximately 70,000 square feet of restaurant uses, and 1,150 parking spaces. Therefore, the Project is not subject to the requirements of SB 610 since the Project would not include the development of any of the categories listed above or generate a demand for domestic water equal to or greater than the demand generated by 500 residential units (i.e., approximately 125 acre-feet per year).¹ Therefore, a WSA is not required for the Project.

(d) California Plumbing Code

Part 5 of the California Building Code establishes the California Plumbing Code.² The California Plumbing Code sets forth efficiency standards (i.e., maximum flow rates) for all new federally-regulated plumbing fittings and fixtures, including showerheads and lavatory faucets. The maximum flow rate for public lavatory faucets is 0.5 gallon per minute (gpm). In addition, all water closets (i.e., flush toilets) are limited to 1.28 gallons per flush, wall mounted urinals are limited to 0.125 gallon per flush, and floor mounted urinals are limited to 0.5 gallon per flush. The 2016 California Building Code became effective January 1, 2017.

(e) Sustainable Groundwater Management Act of 2014³

The Sustainable Groundwater Management Act of 2014, passed in September 2014, is a comprehensive three-bill package that provides a framework for the sustainable management of groundwater supplies by local authorities. The Sustainable Groundwater Management Act requires the formation of local groundwater sustainability agencies to assess local water basin conditions and adopt locally-based management plans. Local groundwater sustainability agencies must be formed by June 30, 2017. The Sustainable Groundwater Management Act provides 20 years for groundwater sustainability agencies to implement plans, achieve long-term groundwater sustainability, and protect existing surface water and groundwater rights. The Act also provides local groundwater sustainability agencies with the authority to: require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and request revisions of basin boundaries, including establishing new subbasins. Furthermore, under the Sustainable Groundwater Management Act, groundwater sustainability agencies

¹ *Based on a water demand factor of 0.25 acre-feet per dwelling unit per year representing average use in the City of Long Beach.*

² *California Code of Regulations, Title 24.*

³ *Association of California Water Agencies, October 2014, Sustainable Groundwater Management Act of 2014 and Sustainable Groundwater Management Act of 2014 Fact Sheet.*

responsible for high- and medium-priority basins must adopt groundwater sustainability plans within five to seven years, depending on whether the basin is in critical overdraft.

(f) Statewide Water Reductions—Executive Orders B-29-15, B-36-15, and B-37-16

In response to California’s drought conditions, in January 2014, Governor Edmund G. Brown, Jr. (Governor Brown) proclaimed a State of Emergency and directed state officials to take all necessary action to make water available. The following April, Governor Brown issued Executive Order B-29-15 calling for mandatory water reduction measures directed at conserving water use, streamlining the state’s drought response, and investing in new technologies to make the State more drought resilient. This executive order directed the State Water Resources Control Board (SWRCB) to work with cities in implementing water usage reduction measures such as replacing up to 50 million square feet of lawns with drought-tolerant landscaping; creating temporary consumer rebate programs to replace older, energy-inefficient appliances; banning the watering of ornamental grass on public street median; and prohibiting new residential developments from irrigating with potable water unless water-efficient drip systems are utilized. The goal of the executive order is to reduce urban water usage by 25 percent statewide. The executive order also seeks to prioritize state water infrastructure projects and incentivize new technology for water efficiencies, streamline permitting and review of emergency drought salinity barriers, and simplify the approval process for voluntary water transfers and emergency drinking water projects. In addition, the executive order directed the California Energy Commission (CEC) to adopt emergency regulations establishing standards to improve the efficiency of water appliances, including toilets, urinals, and faucets. On January 1, 2016, new efficiency standards for toilets, faucets, and other appliances became effective. These standards are now reflected in the California Plumbing Code.

In November 2015, Governor Brown issued Executive Order B-36-15, which called for additional actions to build on the State’s response to record dry conditions and assist recovery efforts from devastating wildfires. These included extension of previous executive orders, prioritization of projects that enhance water conservation, support for the extension of water restrictions, and support for projects that remediate wildfire damage and restore power plant operation.

In May 2016, Governor Brown issued Executive Order B-37-16, which extends the requirements of Executive Order B-29-15 and further directs the Department of Water Resources (DWR) and the SWRCB to develop long term efficiency targets that go beyond the 20-percent reductions mandated by SB X7-7, discussed above. The executive order established longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating

wasteful practices, strengthening urban drought contingency plans and improving agricultural water management and drought plans.

As a result, on May 18, 2016, the SWRCB further revised emergency regulations in consideration of improved hydrologic conditions. The prior percentage reduction-based water conservation standard was replaced by a localized “stress-test” approach, which requires local water agencies to ensure a three-year supply under three or more dry years like the State experienced from 2012—2015. Water agencies that would face shortages under three additional dry years are required to meet a conservation standard equal to the amount of the shortage. On November 30, 2016, state agencies, including the SWRCB released a public draft of *Making Water Conservation A California Way of Life*, which addresses elements of Executive Order B-37-16 that require state agencies to develop a framework for using water more wisely, eliminating water waste, strengthening local drought resilience, and improving agricultural water use efficiency and drought planning.⁴

On April 7, 2017, Governor Brown issued Executive Order B-40-17 which lifts the drought emergency in all California counties except Fresno, Kings, Tulare and Tuolumne, where emergency drinking water projects will continue to help address diminished groundwater supplies.⁵ The order also rescinds two emergency proclamations from January and April 2014 and four drought-related executive orders issued in 2014 and 2015, including B-29-15 and B-36-15 discussed above. Executive Order B-37-16 remains in effect. In spite of improved conditions, the State will continue to maintain urban water use reporting requirements and prohibitions on wasteful practices such as watering during or after rainfall, hosing off sidewalks and irrigating ornamental turf on public street medians.

The regulatory requirements resulting from these Executive Orders have been codified in Article 22.5, Drought Emergency Water Conservation, of the California Code of Regulations.

(g) *California Water Plan*

Required by the Water Code Section 10005(a), the California Water Plan is the State's strategic plan for managing and developing water resources statewide for current and future generations. It provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and

⁴ State Water Resources Control Board, *Water Conservation Portal—Emergency Conservation Regulation, State Plan Seeks to Make Water Conservation A Way of Life*, November 30, 2016.

⁵ Office of Governor Edmund G. Brown, Jr., “Governor Brown Lifts Drought Emergency, Retains Prohibition on Wasteful Practices,” April 7, 2017, <https://www.gov.ca.gov/news.php?id=19747>, accessed April 10, 2017.

the public to develop findings and recommendations and make informed decisions for California's water future.

The California Water Plan, updated every five years, presents the status and trends of California's water-dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The California Water Plan also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. The evaluations and assessments performed for the California Water Plan help identify effective actions and policies for meeting California's resource management objectives in the near term and for several decades to come. The California Water Plan was last updated in 2013, and a 2018 update is underway.

(2) Regional

As discussed in detail below, the Metropolitan Water District of Southern California (MWD) is a primary source of water supply within Southern California. Based on the water supply planning requirements imposed on its member agencies and customers, the MWD has adopted a series of official reports on the state of its water supplies. As described in further detail below, in response to recent developments in the Sacramento Delta, the MWD has developed plans intended to provide solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies.

(a) MWD's 2015 Urban Water Management Plan

MWD's 2015 UWMP addresses the future of MWD's water supplies and demand through the year 2040.⁶ Based on its 2015 UWMP, MWD has supply capabilities that would be sufficient to meet expended demands from 2020 through 2040 under single dry year and multiple dry year hydrologic conditions. MWD has comprehensive plans for stages of actions it would undertake to address up to a 50-percent reduction in its water supplies and a catastrophic interruption in water supplies through its Water Surplus and Drought Management and Water Supply Allocation Plans. MWD has also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the Southern California region and is working with the State to implement a comprehensive improvement plan to address catastrophic occurrences that could occur outside of the Southern California region. MWD is working with the State on the Delta Risk Management Strategy to reduce the impacts of

⁶ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

a seismic event in the Delta that would cause levee failure and disruption of State Water Project (SWP) deliveries. In addition, MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, SWP, Central Valley transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs. As set forth in their 2015 UWMP, MWD will continue investments in water use efficiency measures to help the region achieve the 20 percent per person potable water use reduction by 2020.

(b) MWD's Integrated Resources Plan

MWD first adopted its Integrated Resources Plan (IRP), which is updated every five years, in 1996. The goal of the IRP is for Southern California to have a reliable water system that extends to the future. The 2015 IRP Update, adopted in January 2016, provides the MWD's strategy for water resources reliability through the year 2040. The 2015 IRP Update calls for stabilizing and maintaining imported water supplies; meeting future growth through increased water conservation and sustaining and developing new local supplies; pursuing a comprehensive transfers and exchanges strategy; building storage in wet and normal years to manage risks and drought; and preparing for uncertainty with Future Supply Actions. Overall, the strategies presented in the 2015 IRP Update include investments to maintain the reliability of imported water supplies, expansion of local water supplies, and reduction in water demand through a variety of conservation and water use efficiency initiatives.⁷

(c) MWD's Water Surplus and Drought Management Plan

In 1999, MWD incorporated the water shortage contingency analysis that is required as part of any UWMP into a separate and more detailed plan, called the Water Surplus and Drought Management Plan. The overall objective of the Water Surplus and Drought Management Plan is to ensure that a shortage allocation of MWD's imported water supplies is not required.⁸ The Water Surplus and Drought Management Plan provides policy guidance to manage MWD's supplies and achieve the goals laid out in the agency's IRP. The Water Surplus and Drought Management Plan separates resource actions into two major categories: Surplus Actions and Shortage Actions. The Water Surplus and Drought Management Plan considers the region to be in surplus only after MWD has met all demands for water, including replenishment deliveries. The Surplus Actions store surplus water, first inside then outside of the region. The Shortage Actions are separated

⁷ *Metropolitan Water District of Southern California, Integrated Water Resources Plan Draft 2015 Update, January 12, 2016.*

⁸ *Metropolitan Water District of Southern California, Water Surplus and Drought Management Plan: Report No. 1150, August 1999.*

into three subcategories: Shortage, Severe Shortage, and Extreme Shortage. Each category has associated actions that could be taken as a part of the response to prevailing shortage conditions. Conservation and water efficiency programs are part of MWD's resource management strategy for all categories.

(d) MWD's Water Supply Allocation Plan

While the Water Surplus and Drought Management Plan included a set of general actions and considerations for MWD staff to address during shortage conditions, it did not include a detailed water supply allocation plan or implementation approach. Therefore, in February 2008, MWD adopted a water supply plan called the Water Supply Allocation Plan which has since been implemented three times, most recently in April 2015. The Water Supply Allocation Plan includes a formula for determining reductions of water deliveries to member agencies during extreme water shortages in MWD's service area conditions (i.e., drought conditions or unforeseen cuts in water supplies). The formula allocates shortages of MWD supplies and seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level, and takes into account growth, local investments, changes in supply conditions, the demand hardening aspects of non-potable recycled water use, and the implementation of conservation savings programs. The allocation period covers 12 consecutive months from July of a given year through the following June.

(3) Local

(a) Long Beach Water Department 2015 Urban Water Management Plan

In June 2016, the City of Long Beach Water Department (LBWD) adopted the 2015 UWMP. The 2015 UWMP is a detailed and comprehensive planning document that addresses a broad array of issues including: (1) future water demands in five-year increments over a minimum 20-year period; (2) the availability of future water supplies necessary to meet demands during average year conditions, both in a single dry water year and in multi-year droughts; (3) actions that will be taken if water supplies are reduced by as much as 50 percent; and (4) current and future water conservation, recycled water, and other important programs. The most significant factors altering water use between 2015 and 2040 would be the increase in water demand from the multi-family sector and the decrease in water use attributable to water conservation efforts. Furthermore, the need to purchase more expensive imported water or construct new water supply projects has been reduced as a result of cost-effective conservation programs and the expanded use of recycled water to replace the use of potable water. As concluded in the 2015 UWMP, over the next 25 years groundwater usage will increase 93 percent, but imported and recycled water usage will remain essentially the same.

(b) LBWD Water Conservation and Water Supply Shortage Plan

The purpose of the Water Conservation and Water Supply Shortage Plan, which was amended in July 2011, is to prevent water supply shortages. However, if a shortage were to occur, the actions described in the Water Conservation and Water Supply Shortage Plan would minimize its impact on the City's population and economy, providing first for public health, fire protection, and other essential services; next providing for the economic health of the City; and finally providing for other uses of water.⁹ Objectives of the Water Conservation and Water Supply Shortage Plan include the following:

- To prevent water supply shortages through aggressive and effective water management programs such as conjunctive use, water conservation, water education and use reclaimed water;
- To minimize the impact of a water supply shortage on the City's population and economy;
- To provide first for public health and fire protection and other essential services, then to provide for the economic health of the City, and then to provide for other uses of water; and
- To ensure the water users who conserve water during normal-year hydrology and wet-year hydrology are not disadvantaged by the Plan during shortages.

(c) City of Long Beach Municipal Code

The City has adopted several ordinances, codified in the Long Beach Municipal Code (LBMC), in an effort to reduce water consumption. A summary of the City's key regulations regarding water conservation is provided below.

- City Ordinance No. 07-0024—LBMC Title 2, Chapter 2.38, Sustainable City Commission: This regulation establishes the Sustainable City Commission, which provides advisory policy recommendations to the City Council on issues relating to the environment including; recommendations on a sustainable City plan; efforts or programs to address environmental issues such as air quality, water quality, and resource conservation relating to the protection and integrity of the natural environment; and programs to increase education and awareness of the environment. The Sustainable City Commission also serves as a forum for community discussion of these environmental issues and to encourage input and participation from all sectors of the community on issues of sustainability and the environment.

⁹ Long Beach Water Department, *Conservation and Water Supply Shortage Plan*, July 2011.

- City Ordinance No. 11-0012—LBMC Title 3, Chapter 3.90, Development Services Center Surcharge: This regulation establishes a surcharge to fund the continuous upgrade, improvement, and maintenance of technology for development projects and services. Surcharges are imposed on potable water, reclaimed water, sewer service, and the emergency water conservation plan adopted by the Long Beach Board of Water Commissioners.
- City Ordinance No. 13-0024—LBMC Title 18, Chapter 18.43, Plumbing Code: This regulation adopts and incorporates by reference the 2013 Edition of the California Plumbing Code, which sets forth efficiency standards (i.e., maximum flow rates) for all new federally regulated plumbing fittings and fixtures, including showerheads and lavatory faucets.
- City Ordinance No. 13-0024—LBMC Title 18, Chapter 18.47, Green Building Standards Code: This regulation adopts and incorporates by reference the 2013 Edition of the California Green Building Standards Code, which includes measures regarding indoor and outdoor water use.

The City of Long Beach also has adopted numerous requirements related to the provision of water for purposes of fire protection. These requirements are set forth in the Fire Code (LBMC Title 18, Chapter 18.48). Section 18.48.770 of the Fire Code establishes fire water flow standards consistent with the California Fire Code. As set forth in the California Fire Code, Table B105.1, fire water flow requirements vary from 1,500 gpm in small square footage buildings to 8,000 gpm in large square footage buildings. A minimum residual water pressure of 20 pounds per square inch (psi) is to remain in the water system with the required gpm flowing. As set forth in the California Fire Code, Table C105.1, the number of fire hydrants is based on the building floor area, and the spacing between the fire hydrants is based on the number of required fire hydrants.

b. Existing Conditions

(1) Water Supply

LBWD is responsible for providing water within the City and ensuring water quality meets applicable California health standards for drinking water. Potable (drinking) water is supplied to the City from two primary sources: groundwater and imported water purchased wholesale from the MWD. The City satisfies non-potable water demand through reclaimed water supplies originating from the Long Beach Water Reclamation Plant. Other potential sources of water discussed in the City's 2015 UWMP include desalinated seawater. Table IV.L.1-1 on page IV.L.1-11 shows the projected water supplies based on the 2015 UWMP. As provided therein, the LBWD had an available water supply of approximately 76,983 acre-feet per in 2015 and is projected to have an available water supply of approximately 77,291 acre-feet in 2020. The water supply for 2015 was comprised of

**Table IV.L.1-1
Long Beach Water Department—Existing and Projected Water Supplies (AFY)**

Water Supply	2015	2020	2025	2030	2035	2040
Wholesale Purchases: MWD (Imported)	35,100	35,100	35,100	35,100	35,100	35,100
Groundwater: LBWD Central Basin Aquifer Rights	32,693	33,001	33,501	34,001	34,501	35,001
Recycled Water	9,190	9,190	9,190	9,190	9,190	9,190
Total	76,983	77,291	77,791	78,291	78,791	79,291
<hr/> <i>AFY = acre-feet per year</i> <i>Source: LBWD 2015 UWMP, 2016, Table 12.</i>						

approximately 46 percent MWD imported water, 42 percent groundwater, and 12 percent recycled water. For 2020, the available water supply is projected to consist of approximately 45 percent MWD imported water, 43 percent groundwater, and 12 percent recycled water.

(a) Metropolitan Water District of Southern California

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. MWD imports a portion of its water supplies from the San Francisco/Sacramento Delta region in Northern California through the SWP's California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct. As one of the 26 member agencies of MWD, the LBWD purchases water from MWD to supplement the City's water supplies from local groundwater.¹⁰ As discussed in LBWD's 2015 UWMP, as of 2015, the LBWD had a preferential right to approximately 2.34 percent or 32,692 acre-feet per year of groundwater from the Central Basin Aquifer.¹¹ As indicated in Table IV.L.1-1, in 2015, the LBWD received approximately 32,693 acre-feet of water from MWD. The LBWD will continue to rely on MWD to meet its current and future supplemental water needs. Summaries of MWD's individual supplies, along with each supply's challenges and specific responsive actions taken by MWD, are presented below.

¹⁰ Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.

¹¹ Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.

(i) State Water Project

MWD imports water from the SWP, owned by the State and operated by the DWR. The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. The main purpose of the SWP is to divert and store surplus water during wet periods and distribute it to areas throughout the State. Other purposes of the SWP include flood control, power generation, recreation, fish and wildlife protection, and water quality management in the Sacramento–San Joaquin River Delta (Delta). The SWP transports Feather River water stored in and released from Oroville Dam and conveyed through the Delta, as well as unregulated flows diverted directly from the Delta south via the California Aqueduct to four delivery points near the northern and eastern boundaries of MWD’s service area. MWD is one of the 29 agencies that have long-term contracts for water service from the DWR and is the largest agency in terms of the number of people it serves (nearly 19 million), the share of the SWP that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to the DWR by agencies with state water contracts (approximately 53 percent in 2015).¹² MWD’s State Water Contract is set to expire in 2035, and MWD has the option to continue service under substantially the same terms and conditions.¹³

Under the original contract, the SWP provides MWD with 1,911,500 acre-feet of water.¹⁴ However due to water quality and supply reliability challenges and conflicts due to variable hydrology and environmental standards that limit pumping operations, SWP deliveries in the most recent critically dry years were 5 percent of contractual amounts in 2014 and 20 percent of contractual amounts in 2015.¹⁵ For calendar year 2016, the DWR’s initial allocation estimate was announced as 10 percent of contracted amounts for all SWP contractors.¹⁶ The DWR announced several allocation increases in 2016 primarily due to storms, most recently on April 21, 2016, which increased the allocation to 60 percent of the contracted amounts.¹⁷ On November 28, 2016, the DWR approved an initial 2017 allocation estimate of approximately 20 percent of the requested amount for most

¹² *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

¹³ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

¹⁴ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

¹⁵ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

¹⁶ *Department of Water Resources, State Water Project Analysis Office (SWPAO), Notices to Contractors, Notice to State Water Project Contractors, Number 15-07, 2016 State Water Project Initial Allocation—10 Percent, December 1, 2015, www.water.ca.gov/swpao/docs/notices/15-07.pdf, accessed December 29, 2016.*

¹⁷ *Department of Water Resources, SWPAO, Notices to Contractors, Notice to State Water Project Contractors, Number 16-06, 2016 State Water Project Initial Allocation—60 Percent, April 21, 2016, www.water.ca.gov/swpao/docs/notices/16-06.pdf, accessed December 29, 2016.*

SWP contractors and approved all requested carryover water for delivery in 2017.¹⁸ Depending on hydrologic and water supply conditions in 2017, the DWR may revise the initial allocations.

Challenges to State Water Project Supply¹⁹

Litigation and various regulations have created challenges for the SWP. In particular, the listing of several fish species in the Delta as threatened or endangered under the federal and/or California Endangered Species Acts has constrained SWP operations and created more uncertainty in SWP supply reliability. Based on DWR's 2015 SWP Delivery Capability Report, future SWP deliveries will continue to be impacted by restrictions on SWP and Central Valley Project (CVP) Delta pumping, and climate change, which is altering the hydrologic conditions in the State.

Programs Addressing Challenges within the Delta

In November 2009, Governor Arnold Schwarzenegger passed the 2009 Comprehensive Water Package consisting of four policy bills and a \$11.14 billion bond proposal designed to ensure reliable water supply for California's future and restore the Delta and other ecologically sensitive areas. Senate Bill X7-1 (SB X7-1) of the 2009 Comprehensive Water Package established co-equal goals for the Delta: to provide a reliable water supply for California; and protect, restore, and enhance the Delta ecosystem. SB X7-1 also created a new Delta governing structure to achieve these co-equal goals and established a process for determining the consistency of the Bay Delta Conservation Plan (BDCP) with the co-equal goals. The goal of the BDCP was to provide a basis for the issuance of endangered species permits for the operation of the SWP and CVP and for improvements related to the Delta conveyance. The BDCP will help reduce the risk posed by seismic activities to water supplies from the Delta, protect drinking water quality, and help alleviate conflicts between water management and environmental protection. The BDCP's success is crucial in providing long-term solutions in the Delta and will help maximize water supply reliability from the SWP.

The draft BDCP and associated Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) were made available for public review and comment in

¹⁸ *Department of Water Resources, SWPAO, Notices to Contractors, Notice to State Water Project Contractors, Number 16-09, 2017 State Water Project Initial Allocation—20 Percent, November 28, 2016, www.water.ca.gov/swpao/docs/notices/16-09.pdf, accessed December 29, 2016.*

¹⁹ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

December 2013.²⁰ In April 2015, state and federal lead agencies announced a modified preferred alternative referred to as California WaterFix, which includes design changes and refinements to address impacts to Delta communities and various environmental commitments.²¹ A separate ecosystem effort referred to as California EcoRestore was also announced with the purpose of restoring at least 30,000 acres of Delta habitat.²² A Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS), which evaluated California WaterFix and cumulative impacts of California EcoRestore was prepared and released for public review in July 2015.^{23, 24}

Together, California WaterFix and California EcoRestore are expected to make significant contributions toward achieving the co-equal goals of providing a more reliable water supply in California and protecting, restoring, and enhancing the Delta ecosystem established in the Sacramento-San Joaquin Delta Reform Act of 2009. The DWR and the U.S. Bureau of Reclamation have now completed the BDCP/California WaterFix Final EIR/EIS, which has been submitted to state and federal regulatory agencies for approval and permit authorization.²⁵

(ii) The Colorado River

MWD owns and operates the Colorado River Aqueduct, which since 1941 has delivered water from the Colorado River to Southern California.²⁶ The Colorado River currently supplies approximately 17 percent of Southern California's water needs, and on average makes up about 1.8 percent of LBWD's purchases from MWD.²⁷ Although as

²⁰ *Bay Delta Conservation Plan, 2013-2014 Public Review Period (Closed July 29, 2014)*, <http://baydeltaconservationplan.com/EnvironmentalReview/EnvironmentalReview/2013-2014PublicReview.aspx>, accessed December 29, 2016.

²¹ *Bay Delta Conservation Plan, The Environmental Review Process*, <http://baydeltaconservationplan.com/EnvironmentalReview/EnvironmentalReview/EnvironmentalReview.aspx>, accessed December 29, 2016.

²² *California Natural Resources Agency, California Eco Restore, Restoring the Sacramento-San Joaquin Delta Ecosystem*, https://s3.amazonaws.com/californiawater/pdfs/ECO_FS_Overview.pdf, accessed December 29, 2016.

²³ *Bay Delta Conservation Plan, The Environmental Review Process*, <http://baydeltaconservationplan.com/EnvironmentalReview/EnvironmentalReview/EnvironmentalReview.aspx>, accessed December 29, 2016.

²⁴ *California Department of Water Resources and U.S. Bureau of Reclamation, Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft EIR/Supplemental Draft EIR Executive Summary, 2015*.

²⁵ *California Natural Resources Agency, California WaterFix, News & Information, December 19, 2016, BDCP/CA WaterFix Final EIR/EIS Available on Dec. 22*, www.californiawaterfix.com/, accessed December 29, 2016.

²⁶ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016*.

²⁷ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016*.

stated above, as of 2015, the LBWD had a preferential right to approximately 2.34 percent of MWD’s groundwater. MWD has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada.²⁸ Since 2003, due to increased consumption, no such unused apportioned water has been available to California. Historically, MWD has been able to claim most of its legal entitlement of Colorado River water and could divert over 1.2 million acre-feet in any year, but persistent drought conditions have contributed to a decrease in these claims.²⁹ MWD’s supplies from the Colorado River totaled approximately 900,000 acre-feet in 2015.³⁰ Challenges facing MWD’s Colorado River supply include risk of future droughts in the Colorado River Basin, pending litigation, and environmental considerations. Federal and state environmental laws protecting fish species and other wildlife species also have the potential to affect Colorado River operations.

(iii) Additional MWD Actions to Address Supply

To improve water supply reliability for the entire Southern California region, MWD has also been pursuing voluntary water transfer and exchange programs with state and federal agencies, public and private water districts, and individuals. Programs include the Arvin-Edison Storage Program; the Semitropic Storage Program; the San Bernardino Storage Program, the San Gabriel Valley MWD Exchange Program; the Antelope Valley–East Kern Water Agency Exchange and Storage Program; the Kern-Delta Water District Storage Program; the Mojave Storage Program; and the Central Valley Transfer Programs.³¹

In addition, MWD continues to develop plans and make efforts to provide additional water supply reliability for the entire Southern California region. The LBWD coordinates closely with MWD to ensure implementation of these water resource development plans.³² As discussed above, MWD’s long-term plans to meet its member agencies reliability needs include improvements to the SWP as outlined in the California WaterFix and EcoRestore Plans, conjunctive management efforts on the Colorado River, water transfer programs and outdoor conservation measures, and development of additional local resources, such as recycling brackish water desalination and seawater desalination.

²⁸ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

²⁹ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

³⁰ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

³¹ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

³² *Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.*

Additionally, MWD and has more than 5 million acre-feet of storage capacity of available reservoirs and banking/transfer programs, with approximately 1.21 million acre-feet, inclusive of Intentionally Created Surplus in that storage, and 626,000 acre-feet in emergency storage as of January 1, 2015. MWD had plans to increase storage capacity in 2016 and the end-of-year 2016 storage balances are estimated to be 1.1 to 1.5 million acre-feet depending on SWP and Colorado River Aqueduct supply conditions.³³ As described in the MWD’s 2015 UWMP, MWD has supply capabilities that would be sufficient to meet expected demands from 2020 through 2040 under average-year, single dry year and multiple dry year hydrologic conditions.

(b) Groundwater

The LBWD extracts groundwater from wellfields throughout the Central Basin. The LBWD currently has the right to pump 32,692 acre-feet per year of groundwater from the Central Basin and 0.7 acre-feet per year from the West Coast Basin. However, as the LBWD does not currently have wells located in the West Coast Basin, it does not pump those water rights.³⁴

Existing (2015) and projected (2020 through 2040) groundwater pumping volumes from the Central Basin are shown in Table IV.L.1-1 on page IV.L.1-11. As shown, the LBWD is expected to continue to produce volumes of groundwater equal to the expected annual extraction rights. These amounts could increase in dry years if MWD “calls” its water stored in the conjunctive use account. These amounts could also increase when water shortages require the LBWD to extract additional water from storage, or if the LBWD were to purchase or lease additional water production rights at cost-effective prices from an owner of water production rights. The amount would decrease in wet years when MWD and the Water Replenishment District of Southern California both participate in the in-lieu replenishment program. The LBWD anticipates purchasing or leasing additional groundwater rights over the next 25 years and has projected total groundwater rights of 35,001 acre-feet by 2040.³⁵

As indicated in the LBWD 2015 UWMP, groundwater supplies from the Central Basin are considered reliable, even during multi-year droughts, because sufficient storage is maintained in the Central Basin, extractions are strictly limited, and due to the multiple sources for replenishment.³⁶ In addition, the LBWD is exploring several potential

³³ Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.

³⁴ Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.

³⁵ Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.

³⁶ Long Beach Water Department, 2015 Urban Water Management Plan, June 2016.

opportunities to augment its groundwater production by cycling new sources of replenishment water through its Central Basin groundwater storage accounts.

(c) Recycled Water

Based on the LBWD 2015 UWMP, recycled water used in Long Beach is wastewater that has been fully treated by a primary, secondary (biological), and tertiary (filtration) process. The Long Beach Water Reclamation Plant, operated by the Sanitation Districts of Los Angeles County, provides reclaimed water to the LBWD and treats up to 25 million gallons per day (mgd) of wastewater. During preparation of the LBWD 2015 UWMP, recycled water use in the City included approximately 3,850 acre-feet per year for landscape irrigation (including golf courses) and 795 acre-feet per year for energy production. The total recycled water used during fiscal year 2015 totaled approximately 4,645 acre-feet or approximately 7 percent of the total City water supply. The LBWD expects an increased use in recycled water delivery over the next 25 years.

(d) Precipitation Conditions

While California experienced improved precipitation conditions in 2016, the drought has not ended. The impact of four years of drought conditions cannot be mitigated with average rainfall in a single year. As of June 2016, parts of Northern California remain at below-average precipitation, and Southern California precipitation is well below average.³⁷ In addition, the Delta, which supplies a substantial portion of Southern California's water, remains less than half full, while the Colorado River Basin continues to experience drought conditions.³⁸ Thus, the State continues to develop and implement necessary strategies and actions to address California's drought conditions. In particular, on January 15, 2016, the DWR and the U.S. Bureau of Reclamation submitted the 2016 Drought Contingency Plan that outlined SWP and CVP operations for February 2016 through November 2016.³⁹ In addition, as described above, in May 2016, Governor Brown issued an executive order to build on the temporary statewide emergency water restrictions to establish longer-term water conservation measures, including permanent monthly water use reporting, new permanent water use standards in communities, and bans on clearly wasteful practices such as hosing off sidewalks, driveways, and hardscapes. In addition, the numerous state, regional, and local plans and regulations addressing water conservation described above remain in effect.

³⁷ *Department of Water Resources, Water Conditions Update, June 2016.*

³⁸ *Department of Water Resources, Water Conditions Update, June 2016.*

³⁹ *Department of Water Resources and U.S Bureau of Reclamation, Central Valley Project and State Water Project, 2016 Drought Contingency Plan for Water Project Operations, February–November 2016, submitted January 15, 2016.*

(e) Global Warming and Climate Change

Climate change also has been a factor for California's water supply. Potential impacts of climate change on California's water resources include increases in temperature that drive the snow line higher and reduce snowpack, resulting in less water storage; intense rainfall leading to more frequent and extensive flooding; the acceleration of sea level rise that can produce higher storm surges during coastal storms; and an increase in droughts.⁴⁰ Based on ongoing environmental and policy planning efforts, MWD has demonstrated a commitment to addressing climate change by evaluating the vulnerability of its water systems to global warming impacts and has developed appropriate response strategies and management tools that account for the impacts of climate change on future water supplies.

As provided in the LBWD 2015 UWMP, the LBWD does not expect climate change to have a major impact on its water supplies, including groundwater and recycled water, during the time projections considered in the plan.

(f) Water Conservation and Recycling

Water conservation and recycling will play an increasing role in meeting future water demands. As set forth in the LBWD 2015 UWMP, the LBWD has maintained a well-rounded water conservation program since the 1980s. The LBWD maintains an array of conservation programs, such as its turf replacement program, its residential and commercial rebates programs for a host of water-saving devices, its water rate structure which rewards customers that use water wisely, its enviable system loss program, and its expansive public education and outreach programs that keep customers informed and conserving water. The success of all these programs is evidenced by the 35-percent reduction in per capita water use since the 1980s and the 22-percent reduction that has occurred since the SB X7-7 baseline period (1996 to 2005). Furthermore, the LBWD has increased water-use efficiency and conservation through the adoption of Citywide measures, including the adoption of a landscape ordinance requiring drought-tolerant plants and efficient irrigation system for new landscape areas; adoption of the Long Beach Sustainable City Action Plan that includes a per capita water use reduction goal of 20 percent by 2020; the creation of the Office of Sustainability; and a partnership with the City for the implementation of water saving strategies.

In addition, as further discussed in the LBWD 2015 UWMP, the LBWD maintains a highly effective water-main conservation program through a proactive strategy that includes

⁴⁰ *Department of Water Resources, California Climate Science and Data For Water Resources Management, June 2015.*

repairing all water mains, water meters, and other equipment as soon as leaks are identified; identifying evidence of leaks from its largest water mains in the streets; and using sophisticated computer software to prioritize the replacement of its water mains each year. As a result of water conservation and recycling, water use in the City has steadily declined from 175 gpd per capita in 1984 to 102 gpd per capita in 2015.⁴¹

(g) Future Water Projects

The LBWD has several proposed future water supply projects, as documented in the 2015 UWMP, including an expansion of the recycled water infrastructure, improvement to the recycled water barrier injection system, building extraction wells, water extraction from the West Coast Basin, Los Angeles River water treatment, urban stormwater treatment, and integrating seawater desalination technologies by 2025.

(2) Water Demand

The LBWD's 2015 UWMP provides water supply and demand projections in five-year increments from 2020 to 2040, based on projected population estimates provided by the Southern California Association of Governments (SCAG). Based on these numbers, water supply and demand for the Project buildout year (2019) was calculated. Table IV.L.1-2 on page IV.L.1-20 summarizes the projected water supply and demand from the year 2019 through 2040 for the City. As shown therein, according to the LBWD 2015 UWMP, the City's annual water demand is forecasted to be 64,137 acre-feet per year by 2040 under normal hydrological conditions. Use of the current demand per capita within this demand forecast provides a conservative estimate of projected future water demand (since additional conservation efforts are anticipated to further reduce per capita water use) to ensure that water supplies are available to meet projected demands. As also shown in Table IV.L.1-2, the 2015 UWMP anticipates adequate water supplies will be available to the service area under normal, single dry, and multiple dry year conditions through 2040.

With regard to on-site water demand, the Project Site currently uses water for operation of the SeaPort Marina Hotel and associated commercial and restaurant uses, swimming pool, and irrigation of existing landscaped areas. As provided in the water demand calculations included in Appendix T of this Draft EIR, based on historical site data from the LBWD, the Project Site generates a water demand of approximately 12,498 gpd or approximately 14 acre-feet per year.

⁴¹ Long Beach Water Department, 2015 Urban Water Management Plan, page 6, 2016.

**Table IV.L.1-2
City of Long Beach Supply and Demand Projections (AFY)**

Hydrological Conditions	Years					
	2019 ^a	2020	2025	2030	2035	2040
Normal Year						
Supply Total	77,191	77,291	77,791	78,291	78,791	79,291
Demand Total	63,690	63,643	63,410	63,454	63,609	64,137
Single Dry Year						
Supply Total	77,191	77,291	77,791	78,291	78,791	79,291
Demand Total	63,690	63,643	63,410	63,454	63,609	64,137
Multiple Dry Year						
Supply Total	77,191	77,291	77,791	78,291	78,791	79,291
Demand Total	63,690	63,643	63,410	63,454	63,609	64,137
<hr/> <i>AFY = acre-feet per year</i> ^a <i>The 2015 UWMP's projections begin in 2020. A linear interpolation of the 2020 to 2025 change in water supply and demand was used to calculate data for 2019, which is the Project's buildout year.</i> <i>Source: Long Beach Water Department, 2015 Urban Water Management Plan, Table 13, 2016.</i>						

(3) Water Infrastructure

The existing domestic water infrastructure in the Project vicinity includes water lines that are owned and maintained by the LBWD. Water to the Project Site is conveyed via a 12-inch water main located in 2nd Street and a 12-inch water main located in Marina Drive. Currently, the Project Site is served by two existing public fire hydrants located along 2nd Street and Marina Drive.

3. Environmental Impacts

a. Methodology

The analysis of the Project's impacts relative to water supply is based on a calculation of the Project's anticipated net water demand by applying the City's wastewater generation rates to the proposed uses. The Project's resulting net water demand was then analyzed relative to LBWD's existing and planned future water supplies to determine if LBWD would be able to accommodate the Project's water demands during a normal weather year, single dry year, and multiple dry years. The analysis with regard to water infrastructure evaluates the adequacy of the existing water conveyance system to accommodate the Project's water demand.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines provides a set of sample questions that address impacts with respect to water supply and infrastructure. These questions are as follows:

Would the project:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

c. Project Design Features

As described in Section II, Project Description, of this Draft EIR, the Project would incorporate green principles to comply with the City of Long Beach Green Building Ordinance (Ordinance No. ORD-09-0013) and the sustainability intent of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) program, including water conservation features such as use of drought-tolerant landscaping and use of water-efficient plumbing fixtures. In particular, the following is proposed as part of the Project:

- Install water conserving fixtures that reduce water use by at least 20 percent.
- Install weather-based irrigation controllers.

d. Analysis of Project Impacts

(1) Construction

Project construction activities would result in a temporary increase in water demand. Water use would be associated with earthwork and soil compaction, dust control, mixing and placement of concrete, equipment and site cleanup, irrigation for plant and landscaping establishment, water line testing and flushing, and other related short-term activities. These activities would occur intermittently throughout the construction period and would be temporary in nature. The amount of water used during construction would vary depending on weather, soil conditions, the size of the area being worked, and the specific activities being performed. However, the short-term and intermittent water use during construction is not expected to be substantial. Furthermore, the water demand generated by construction activities would be offset by the reduction in water consumption resulting from

the removal of the existing hotel. In addition, as concluded in LBWD's 2015 UWMP, projected water demand for the City will be met by available supplies during a normal year, single dry year, and multiple dry year hydrological conditions through 2040, as well as the intervening years.

The Project would require construction of new, on-site water distribution lines to connect the proposed uses to the existing 12-inch water mains located in 2nd Street and Marina Drive. The design and installation of new water connections would meet applicable City standards. No upgrades to the water main lines that serve the Project Site would be required. Therefore, most construction impacts associated with the installation of the water distribution lines are expected to be confined to trenching in order to place the lines below surface and would be limited to the existing on-site water distribution infrastructure. Minor off-site construction activities associated with connections to the public water mains would occur. Vehicular and pedestrian access immediately surrounding the Project Site could be affected during construction of new water connections to the public water mains. However, as discussed in Section IV.K, Traffic and Access, of this Draft EIR, a construction management plan would be implemented during Project construction to ensure that adequate and safe access remains available within and near the Project Site during construction activities. Features of the construction management plan, which would be developed in consultation with the City's Bureau of Engineering, may include limiting potential lane closures to off-peak travel periods, to the extent feasible, and employing flag persons to control traffic movement during temporary traffic flow disruptions. In addition, prior to conducting any ground disturbing activities, Project contractors would coordinate with the LBWD to identify the locations and depths of existing water lines in the Project Site vicinity to avoid disruption of water service.

Based on the above, Project construction activities would require minimal water usage and are not anticipated to have a substantial adverse impact on available water supplies or infrastructure. In addition, off-site construction impacts would be temporary in nature and would not result in a substantial inconvenience to other water users or motorists and pedestrians. As such, construction-related impacts to water supply and infrastructure would be less than significant.

(2) Operation

(a) Water Supply

Development of the Project would increase the long-term water demand associated with consumption, operational uses, maintenance, and other on-site activities. As shown in Table IV.L.1-3 on page IV.L.1-23, it is estimated that the Project would have an average daily domestic water demand of approximately 108,282 gpd or approximately 121.3 acre-feet per year. As previously described, the existing uses within the Project Site are

**Table IV.L.1-3
Estimated Project Water Demand**

Proposed Land Use	Total Area (sf)	Demand Factor^a	Project Demand (gpd)	Project Demand (AFY)
Grocery	55,000	50 gpd/ksf	2,750	3.1
Retail	95,000	50 gpd/ksf	4,750	5.3
Restaurant, Dinner	40,000	1,200 gpd/ksf	48,000	53.8
Restaurant, Ready-to-Eat	5,000	1,200 gpd/ksf	6,000	6.7
Restaurant, Fast-Food	25,000	1,200 gpd/ksf	30,000	33.6
Fitness/Health Club	25,000	630 gpd/ksf	15,000	16.8
Landscape Irrigation ^b	—	—	1,782	2.0
Total Water Demand			108,282	121.3
Existing Water Demand			(12,498)	(14.0)
Net Water Demand			95,784	107.3

AFY = acre-feet per year
gpd = gallons per day
sf = square feet
1 acre-foot = 325,851 gallons
^a Demand factors are based on Los Angeles County Sanitation Districts wastewater generation rates.
^b Irrigation demand provided by Psomas based on proposed landscape plan.
 Source: Eyestone Environmental and Psomas, 2017.

estimated to have a water demand of approximately 12,498 gpd or approximately 14 acre-feet per year. When accounting for the existing uses to be removed, the Project would result in a net increase in average daily water demand of approximately 95,784 gpd or approximately 107.3 acre-feet per year. It should be noted that the Project’s estimated water demand is conservative as it does not account for water conservation features that would be included as part of the Project or that would be required by the City. These water saving features would reduce Project demand accordingly.

Based on LBWD’s 2015 UWMP water demand projections through 2040 shown in Table IV.L.1-3, the water demand for the City in 2019 during normal year, single dry year, and multiple dry year hydrological conditions is expected to reach approximately 63,690 acre-feet per year.⁴² The Project’s estimated net increase in water demand of

⁴² As noted above, the 2015 UWMP’s projections begin with 2020. A linear interpolation of the 2020 to 2025 change in water supply and demand was used to calculate 2019, which is the Project’s buildout year.

approximately 107.3 acre-feet per year would comprise approximately 0.17 percent of the City's water demand in 2019. Therefore, the Project would be well within the available and projected water supplies from 2019 through the year 2040 and, as such, the LBWD would be able to meet the water demand for the Project in combination with existing and planned water demand in its future service area. It is further noted that the 2015 UWMP anticipates commercial growth throughout the City, such as would occur under the Project, as evidenced in its application of a 0.33 percent annual growth rate in commercial water use to calculate the City's water demand projections through 2040.⁴³

As described above, MWD's water supplies are facing challenges due to environmental concerns and litigation. Additionally, changes in hydrological conditions due to climate change could also have an impact on MWD's water supplies. However, along with MWD's water management and reliability initiatives, the LBWD is committed to providing a reliable water supply for the City, as detailed in its 2015 UWMP. The LBWD's 2015 UWMP takes into account the concerns of drought and dry weather and notes that the City will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling.

Based on the above, the estimated water demand for the Project would not exceed the available supplies projected by the LBWD. Thus, the LBWD would be able to meet the Project's water demand in combination with the existing and planned future water demands within its service area. Therefore, the Project's operational impacts on water supply would be less than significant, and no mitigation measures are required.

(b) Water Infrastructure

Water service to the Project Site would continue to be provided by the LBWD for domestic and fire protection uses. While domestic water demand is typically the main contributor to water consumption, fire flow demands have a much greater instantaneous impact on infrastructure and therefore are the primary means for analyzing infrastructure capacity. As discussed in Section IV.J.1, Public Services—Fire Protection, of this Draft EIR, per the California Fire Code, fire flow requirements are based on building types and floor area and range from 1,500 to 8,000 gallons per minute at 20 pounds per square inch. In accordance with Section 18.48.420 of the Long Beach Fire Code, all new commercial, industrial, and non-residential buildings that require two or more exits or that are greater than 3,000 square feet shall be protected by an automatic sprinkler system. Per the Long

⁴³ As stated in the LVWD 2015 UWMP, the projections for future commercial water demands use 2014 commercial water use as a baseline and apply a 0.33-percent annual growth rate, which is the growth rate for employment between 2020 and 2035 projected by SCAG. Source: Long Beach Water Department, 2015 Urban Water Management Plan, page 26, 2016.

Beach Fire Code, fire flows can be reduced by up to 50 percent when fire sprinklers are installed. Prior to the issuance of building permits, the LBFD would be required to grant approval of the final building design, including all fire prevention and suppression systems, which would ensure the Project is developed pursuant to Fire Code requirements. In addition, on-site water connections would be constructed, as necessary, to comply with the fire flow set for the Project by the LBFD during the plan check process.

With implementation of on-site water system improvements, which include a loop fire distribution system and new metered domestic water distribution system, the Project would not exceed the available capacity within the distribution infrastructure that would serve the Project Site. Therefore, impacts with regard to water infrastructure would be less than significant.

4. Cumulative Impacts

The Project, in conjunction with growth forecasted in the City through 2019 (i.e., the Project buildout year), would cumulatively increase the demand for water, thus potentially resulting in cumulative impacts on water supplies and water infrastructure. Cumulative growth in the greater Project area through 2019 includes specific known development projects as well as general ambient growth projected to occur, as described in Section III, Environmental Setting, of this Draft EIR.

a. Water Supply

The geographic context for the cumulative impact analysis on water supply is the LBWD service area (i.e., the City). As previously discussed, the LBWD, as a public water service provider, is required to prepare and update every five years a UWMP to plan and provide for water supplies to serve existing and projected demands over a 20-year horizon. The 2015 UWMP prepared by the LBWD accounts for existing development within the City, as well as projected growth through the year 2040. The growth assumed in the UWMP water demand projections incorporate population, housing, and employment growth anticipated in the City based on both historical trends and official forecasts from SCAG and the California Department of Finance.⁴⁴

Section III, Environmental Setting, of this Draft EIR identifies six related projects located in the Project vicinity. Four of the six related projects are located in the City of Long Beach and would be served by the LBWD. However, as the City is considered essentially built out, the related projects represent rather limited floor area, with several of

⁴⁴ Long Beach Water Department, 2015 Urban Water Management Plan, pages 21-22 and 26, 2016.

the land uses (e.g., a wetlands mitigation bank, an energy storage facility) generating little water demand. The LBWD's 2015 UWMP acknowledges that growth in the City is expected to continue to be lower than that of other cities in Southern California and the region as a whole. In addition, the LBWD has determined it will be able to reliably provide water to its customers from 2015 through the year 2040, as well as during intervening years (i.e., 2019, the Project build out year).

Additionally, under the provisions of SB 610, the LBWD is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area that meets certain thresholds. As described in the Regulatory Framework subsection above, the types of projects that are subject to the requirements of SB 610 tend to be larger projects that may or may not have been included within the growth projections of the LBWD 2015 UWMP. The water supply assessment for such projects would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed.

Compliance with regulatory requirements that promote water conservation, such as the LBWD Water Conservation and Water Supply Shortage Plan and the Sustainable City Plan, as well as implementation of water saving strategies, also will assist in assuring that adequate water supply is available on a cumulative basis.

Based on the above, it is anticipated that the LBWD would be able to supply the demands of the Project and future growth through 2019 and beyond. Therefore, Project impacts on water supply would not be cumulatively considerable.

b. Water Infrastructure

The geographic context for the cumulative impact analysis on water infrastructure is the Project vicinity. Development of the Project and future new development in the Project vicinity would cumulatively increase demands on the existing water conveyance system. However, new development projects would be subject to City review to assure that the existing public utility facilities would be adequate to meet the domestic and fire water demands of each project, and individual projects would be subject to City requirements regarding infrastructure improvements needed to meet respective water demands, fire flow and pressure requirements, etc. Furthermore, the LBWD, Long Beach Department of Public Works, and the LBFD would conduct ongoing evaluations to ensure facilities are adequate. Therefore, Project impacts on the water infrastructure system would not be cumulatively considerable.

5. Mitigation Measures

Project-level and cumulative impacts with regard to water supply and water infrastructure would be less than significant. Therefore, no mitigation measures are required.

6. Level of Significance After Mitigation

Project-level and cumulative impacts related to water supply and infrastructure would be less than significant.