

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 to water supply and the water infrastructure system serving the Project Site. The analysis 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 of water supply is based on the Water Supply Assessment (WSA) prepared for the Project by the Los Angeles Department of Water and Power (LADWP) and adopted by LADWP’s Board of Water and Power Commissioners on November 7, 2017. The WSA for the Project is included in Appendix O of this Draft EIR. The analysis of water infrastructure is based on the *Water and Sewer Infrastructure Assessment Report*, prepared for the Project by Fuscoe Engineering, dated January 26, 2018 (Infrastructure Assessment Report), which is included in Appendix O of this Draft EIR.

2. Environmental Setting

a. Regulatory Framework

(1) Federal

No federal regulations are relevant to the thresholds discussed below.

(2) State

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

Senate Bill (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 WSA that determines whether the projected water demand associated with a project is included as part of the most recently adopted urban water management plan.

Specifically, a 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 Section 10912 of the California Water Code, 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 discussed in Section II, Project Description, of this Draft EIR, the Project would replace three buildings within the existing Marina Marketplace shopping center that together comprise approximately 100,781 square feet and associated surface parking areas with a new mixed-use development consisting of 658 multi-family residential units and up to 27,300 square feet of neighborhood-serving commercial uses, including up to 13,650 square feet of retail space and up to 13,650 square feet of restaurant space. Since the Project would include more than 500 dwelling units, the preparation and approval of a WSA by LADWP is required. As discussed in greater detail below, a WSA was prepared for the Project and adopted by the LADWP's Board of Water and Power Commissioners in November 2017.

(b) Senate Bill X7-7 (Water Conservation Act of 2009)

Senate Bill X7-7 (Water Conservation Act of 2009), codified in California Water Code Section 10608, requires all water suppliers to increase water use efficiency. Enacted in 2009, this legislation sets an overall goal of reducing per capita urban water use, compared to 2009 use, by 20 percent by December 31, 2020. The State was required to make incremental progress toward this goal by reducing per capita water use by at least 10 percent on or before December 31, 2015. Monthly statewide potable water savings reached 14.9 percent in September 2017 as compared to production in September 2013.¹ Cumulative statewide savings from June 2015 through February 2017 resulted in a 22.5-percent decrease in per capita urban water use.²

(c) California Urban Water Management Plan Act (California Water Code Sections 10610–10656)

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 of water must adopt an urban water management plan.

A number of recent requirements regarding the preparation of water management plans have been added to the Urban Water Management Planning Act. These additional requirements include: (i) a narrative description of water demand measures implemented over the past five years and future measures planned to meet 20-percent demand reduction targets by 2020; (ii) a standard methodology for calculating system water loss; (iii) a voluntary reporting of passive conservation savings, energy intensity, and climate change; and (iv) an analysis of water features that are artificially supplied with water.³

¹ State Water Resources Control Board, *Fact Sheet, September 2017 Statewide Conservation Data, updated December 4, 2017.*

² State Water Resources Control Board, *Media Release, "Statewide Water Savings Exceed 25 Percent in February; Conservation to Remain a California Way of Life," April 4, 2107, www.drought.ca.gov/topstory/top-story-71.html, accessed December 4, 2017.*

³ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project, p. 11, November 7, 2017.*

(d) California Plumbing Code

Title 24, Part 5 of the California Code of Regulations establishes the California Plumbing Code. 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 current 2016 California Plumbing Code, which is based on the 2015 Uniform Plumbing Code, has been published by the California Building Standards Commission and went into effect on January 1, 2017. In addition, the California Building Standards Commission approved an Emergency Supplement to the 2013 California Plumbing Code in 2016, in order to establish new or replacement standards on an emergency basis for insertion in the 2013 California Plumbing Code.⁴ This Emergency Supplement is also applicable to the now effective 2016 California Building Code.

(e) Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014,^{5,6} 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 were required to be formed by June 30, 2017. The Sustainable Groundwater Management Act provides 20 years for groundwater sustainability agencies to implement plans and achieve long-term groundwater sustainability, and protect existing surface water and groundwater rights. The Sustainable Groundwater Management Act provides local groundwater sustainability agencies 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.

As required by the Sustainable Groundwater Management Act, in December 2016, the California Department of Water Resources published on its website the best management practices (BMPs):

- BMP 1. Monitoring Protocols, Standards, and Sites;

⁴ California Building Standards Commission, *Revision Record for the State of California, Emergency Supplement, 2013 Title 24, Part 5, California Plumbing Code*.

⁵ *Sustainable Groundwater Management Act [And Related Statutory Provisions from SB1168 (Pavley), AB1739 (Dickinson), and SB1319 (Pavley) as Chaptered], 2015 Amendments, effective January 1, 2016*.

⁶ California Department of Water Resources, *SGM Sustainable Groundwater Management*, www.water.ca.gov/groundwater/sgm/index.cfm, accessed December 4, 2017.

- BMP 2. Monitoring Networks and Identification of Data Gaps;
- BMP 3. Hydrogeologic Conceptual Model;
- BMP 4. Water Budget; and
- BMP 5. Modeling.⁷

In November 2017, BMP 6 for Sustainable Management Criteria was released for public comments to be received by January 8, 2018. Furthermore, under Section 10720.7 of the Sustainable Groundwater Management Act, groundwater sustainability agencies responsible for high- and medium-priority basins must adopt groundwater sustainability plans by January 31, 2020 or January 31, 2022, depending on whether the basin is in critical overdraft.

(f) Article 22.5 Drought Emergency Water Conservation, California Code of Regulations (Emergency Declaration and Executive Orders B-29-15, B-36-15, B-37-16, and B-40-17)

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. In addition, Governor Brown issued numerous Executive Orders regarding water conservation commencing in 2014. Executive Order B-37-16, which was issued in May 2016, extends the mandatory water reduction measures outlined in a previous Executive Order B-29-15 and further directs the Department of Water Resources and the State Water Resources Control Board to develop long term efficiency targets that go beyond the 20-percent reductions mandated by Senate Bill X7-7, discussed above. The executive order also establishes 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.

In addition, on May 18, 2016, the State Water Resources Control Board 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 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

⁷ California Department of Water Resources, *Best Management Practices*, <http://water.ca.gov/groundwater/sgm/bmps.cfm>, accessed December 4, 2017.

conservation standard equal to the amount of shortage. On November 30, 2016, State agencies, including the State Water Resources Control Board 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.⁸

Due to improved hydrologic conditions statewide, on April 7, 2017, Governor Brown issued Executive Order B-40-17 lifting the drought emergency in all but four California counties.⁹ Executive Order B-40-17 also rescinds the Drought Emergency Proclamations issued in January and April 2014 as well as four drought-related Executive Orders issued in 2014 and 2015. However, Executive Order B-40-17 also directs the State Water Resources Control Board to maintain urban water use reporting requirements and prohibitions on wasteful practices. Water agencies will continue to strengthen drought readiness and water use efficiency.¹⁰ The regulatory requirements resulting from the existing 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 California Water Code Section 10005(a), the California Water Plan¹¹ (Water Plan) is the State's strategic plan for managing and developing water resources statewide for current and future generations. The Water Plan provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future.

The 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 Water Plan also evaluates different combinations of regional and statewide resource management

⁸ California 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*, www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2016nov/pr113016_water_efficiency_report.pdf, accessed December 4, 2017.

⁹ *The Counties of Fresno, Kings, Tulare, and Tuolumne remain under a drought state of emergency, per Executive Order B-40-17*

¹⁰ *Governor Brown Lifts Drought Emergency, Retains Prohibition on Wasteful Practices, Executive Order B-40-17.*

¹¹ *California Department of Water Resources, About the Water Plan*, www.water.ca.gov/waterplan/about_us/index.cfm, accessed December 4, 2017.

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 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. While the California Water Plan cannot mandate actions or authorize itemized spending, policy-makers and lawmakers have the ability to authorize specific actions and appropriate necessary funding. In addition, while the California Water Plan Update 2013 represents the latest complete update, the California Water Plan Update 2018 is in development and will work in tandem with Governor Jerry Brown's California Water Action Plan, as discussed further below.

(h) Governor's California Water Action Plan

The first California Water Action Plan (Action Plan) was published in January 2014 to provide a roadmap for the State's path toward sustainable water management.¹² The Action Plan discusses the challenges for managing the State's water resources supply, scarcity, and quality, and also considers the effects of ecosystems, flooding, population growth, and climate change and floods. The following ten actions were presented:¹³

1. Make conservation a California way of life;
2. Increase regional self-reliance and integrated water management across all levels of government;
3. Achieve the co-equal goals for the Delta;
4. Protect and restore important ecosystems;
5. Manage and prepare for dry periods;
6. Expand water storage capacity and improve groundwater management;
7. Provide safe water for all communities;
8. Increase flood protection;
9. Increase operational and regulatory efficiency; and
10. Identify sustainable and integrated financing opportunities.

¹² California Department of Natural Resources, *California Water Action Plan*, http://resources.ca.gov/california_water_action_plan/, accessed December 4, 2017.

¹³ California Department of Natural Resources, *California Water Action Plan 2014*.

In complementing local efforts, the Action Plan emphasizes collaboration between different levels of government, water agencies, conservationists, tribes, farmers, and other stakeholders. Since the Action Plan Update for 2016 has been released, its implementation progress has also been documented with focuses on policy, funding, and coordinated projects. The Action Plan will continue to be implemented simultaneously with the California Water Plan Update 2018 as it is completed.

(3) 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 ultimate customers, 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 Integrated Water Resources Plan

The Integrated Water Resources Plan is the long-term water resources strategy for the MWD in Southern California. First adopted in 1996, the goal of the Integrated Water Resources Plan has been to ensure that a reliable water system will extend into the future. The 2015 Integrated Water Resources Plan Update, adopted in January 2016, provides MWD's strategy for water resource reliability through the year 2040 and establishes targets for a diversified portfolio of water supply investments. The 2015 Integrated Water Resources Plan 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 Integrated Water Resources Plan 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.¹⁴

¹⁴ *Metropolitan Water District of Southern California, Integrated Water Resources Plan 2015 Update, January 2016.*

(b) MWD's 2015 Urban Water Management Plan

MWD's 2015 Urban Water Management Plan addresses the future of MWD's water supplies and demand through the year 2040.¹⁵ Based on its 2015 Urban Water Management Plan, MWD has supply capabilities that would be sufficient to meet expected 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 also working with the State on the Delta Risk Management Strategy to reduce the impacts of a seismic event in the Delta that would cause levee failure and disruption of State Water Project deliveries. In addition, MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, 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 Urban Water Management Plan, MWD will also continue investments in water use efficiency measures to help the region achieve the potable water use reduction of 20 percent per person by 2020.

(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 urban water management plan into a separate, 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 shortage allocation of MWD's imported water supplies is not required.¹⁶ 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 Integrated Water Resources Plan. 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 and then outside of the region. The Shortage Actions of the Water Surplus and Drought Management Plan are separated into

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

¹⁶ *Metropolitan Water District of Southern California, Water Surplus and Drought Management Plan: Report No. 1150, August 1999.*

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 through 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, MWD adopted a water supply plan called the *Water Supply Allocation Plan* in February 2008, that has since been implemented three times, the latest in April 2015.¹⁷ 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 and the demand hardening aspects of non-potable recycled water use and the implementation of conservation savings programs. The allocation period covers 12 months from July of a given year through the following June.

(4) Local

(a) Los Angeles Department of Water and Power’s 2015 Urban Water Management Plan

The Los Angeles Department of Water and Power’s (LADWP) 2015 Urban Water Management Plan, adopted in June 2016, serves two purposes: (i) to achieve full compliance with the requirements of California’s Urban Water Management Planning Act (discussed above); and (ii) to serve as a master plan for water supply and resource management consistent with the City’s goals and objectives.¹⁸

A number of important changes have occurred since the LADWP prepared its prior 2010 Urban Water Management Plan. The year 2012 marked the start of the most recent multi-year drought in California, in response to which Governor Brown proclaimed a drought state of emergency in January 2014. In addition, as discussed above, in 2014, the State Water Resources Control Board implemented its Drought Emergency Water Conservation Regulation, which mandates 25-percent reductions in water use statewide.

¹⁷ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

¹⁸ *Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016.*

In October 2014, City of Los Angeles Mayor Eric Garcetti issued Executive Directive No. 5, which set goals to reduce per capita water use by 20 percent by 2017, reduce purchases of imported potable water by 50 percent, and create an integrated water strategy to increase local supplies and improve water security considering climate change and seismic vulnerability. In addition, in April 2015, Mayor Garcetti's Sustainable City pLAN¹⁹ (discussed below) was released, establishing targets for the City over the next 20 years to strengthen and promote sustainability. LADWP's 2015 Urban Water Management Plan incorporates the objectives of these recent initiatives. Overall, LADWP's 2015 Urban Water Management Plan projects a 7-percent lower water demand trend than what was projected in the previous 2010 Urban Water Management Plan.²⁰ On February 2, 2017, the Mayor announced that the City's 20-percent water reduction target had been met.²¹

(b) Sustainable City pLAN

In April 2015, the City's first Sustainable City pLAN (the pLAN) was released. The pLAN includes a multi-faceted approach to developing a locally sustainable water supply to reduce reliance on imported water, reducing water use through conservation, and increasing local water supply and availability. The pLAN enhances Executive Directive No. 5's goals and incorporates water savings goals of reduction in per capita potable water by 20 percent by 2017, by 22.5 percent by 2025, and by 25 percent by 2035, using a 2014 baseline of 131 gallons per capita per day. The pLAN also includes a reduction in imported water purchases from MWD by 50 percent of the total supply by 2025 and a goal to expand local sources of water to 50 percent of the total water supply by 2035. Specific strategies and desired outcomes for conservation, recycled water, and stormwater capture are included in the pLAN. These include investments in state-of-the art technology, rebates and incentives promoting water-efficient appliances, tiered water pricing, a technical assistance program for business and industry, and large landscaped irrigation and efficiency programs.

In March 2017, the pLAN's Second Annual Report for 2016–2017 was released. It reported that the City had reduced per capita water use by 20 percent to achieve both the City's and the pLAN's water use reduction goal.²² As the pLAN's Second Annual Report for 2016-2017 was released in March 2017, the City has begun working toward its next goal of reducing municipal water use by 22.5 percent by 2025.

¹⁹ Mayor's Office of Sustainability, *Sustainable City pLAN*, April 2015.

²⁰ Los Angeles Department of Water and Power, *2015 Urban Water Management Plan*, June 2016.

²¹ City of Los Angeles, Mayor Eric Garcetti, *Press Release, Los Angeles Achieves Mayor Garcetti's Goal of 20 Percent Water Savings*, released February 2, 2017, www.lamayor.org/los-angeles-achieves-mayor-garcetti%E2%80%99s-goal-20-percent-water-savings, accessed December 5, 2017.

²² Mayor's Office of Sustainability, *Sustainable City pLAN, Second Annual Report for 2016–2017*, March 2017.

The pLAN's Third Annual Report was released in April 2018. This report notes that Mayor Garcetti broke ground on the North Hollywood West Wellhead Remediation Project (NHWWRP) on January 17, 2018; the NHWWRP proposes to clean up and restore the use of groundwater for safe, high-quality drinking water in the San Fernando Valley and city at large. The NHWWRP, in combination with three other planned remediation projects in the San Fernando Valley, advances two key pLAN goals—reducing the purchase of imported water by 50 percent by 2025 and producing 50 percent of L.A.'s water locally by 2035. By facilitating the use of additional groundwater from the San Fernando Basin, this project also furthers the goals of increasing recycled water use and stormwater capture.²³

(c) Los Angeles Municipal Code

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

- Ordinance Nos. 166,080, 181,288, 183,608, and 184,250—amending LAMC Chapter XII, Article 1 to clarify prohibited uses of water and modify certain water conservation requirements of the City's Emergency Water Conservation Plan. The City's Emergency Water Conservation Plan sets forth six different phases of water conservation, which shall be implemented based on water conditions. As part of these requirements, watering is limited to specific days and hours. In determining which phase of water conservation shall be implemented, LADWP monitors and evaluates the projected water supply and demand. In addition, the Emergency Water Conservation Plan includes penalties for those that violate its requirements.
- City Ordinance No. 180,822—amended LAMC Chapter XII, Article 5 to establish water efficiency requirements for new development and renovation of existing buildings, and mandate installation of high efficiency plumbing fixtures in residential and commercial buildings.
- City Ordinance No. 181,480—amended LAMC Chapter IX by adding Article 9 (Green Building Code) to the LAMC to incorporate various provisions of the California Green Building Standards Code. This ordinance added mandatory measures for newly constructed low-rise residential and non-residential buildings to reduce indoor water use by at least 20 percent by: (1) using water saving fixtures or flow restrictions; and/or (2) demonstrating a 20-percent reduction in baseline water use.
- City Ordinance Nos. 181,899 and 183,833—amended LAMC Chapter VI, Article 4.4, Section 64.72 regarding stormwater and urban runoff to include new

²³ Mayor's Office of Sustainability, *Sustainability City pLAN, 3rd Annual Report for 2017-2018, April 2018*.

requirements, including Low Impact Development (LID) requirements that promote water conservation.

- Ordinance No. 182,849—amended LAMC Chapter IX, Article 9 (Green Building Code) to mandate that for new water service or for additions or alterations requiring upgraded water service for landscaped areas of at least 1,000 square feet, separate sub-meters or metering devices shall be installed for outdoor potable water use. This ordinance also required that for new non-residential construction with at least 1,000 square feet of cumulative landscaped area, weather- or soil moisture-based irrigation controllers and sensors be installed.
- City Ordinance No. 184,692—amended LAMC Chapter IX, Article 4 (Plumbing Code) by adopting by reference various sections of the California Plumbing Code. This ordinance also added requirements for plumbing fixtures and fixture fitting.
- Ordinance No. 184,248—amended LAMC Chapter IX, Article 4 (Plumbing Code) and Article 9 (Green Building Code) to establish citywide water efficiency standards and mandate a number of new fixture requirements and methods of construction for plumbing and irrigation systems.

The City of Los Angeles 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 (LAMC Chapter V, Article 7). LAMC Section 57.507.3.1 establishes fire water flow standards. Fire water flow requirements, as determined by the Los Angeles Fire Department (LAFD), vary by project site as they are dependent on land use (e.g., higher intensity land uses require higher flow from a greater number of hydrants), life hazard, occupancy, and fire hazard level. As set forth in LAMC Section 57.507.3.1, fire water flow requirements vary from 2,000 gallons per minute in low density residential areas to 12,000 gallons per minute in high density commercial or industrial areas. A minimum residual water pressure of 20 pounds per square inch is to remain in the water system with the required gallons per minute flowing. As set forth in LAMC Section 57.507.3.1, Industrial and Commercial land uses (which the LAFD has classified the Project as) have a minimum required fire flow of 6,000 gallons per minute to 9,000 gallons per minute from four to six adjacent fire hydrants flowing simultaneously with a minimum residual water pressure of 20 pounds per square inch remaining in the water system. Land uses in the Industrial and Commercial category require one hydrant per 80,000 square feet of land with 300-foot distances between hydrants and 2.5-inch by 4-inch or 4-inch by 4-inch double fire hydrants. Regardless of land use, every first story of a residential, commercial, and industrial building must be within 300 feet of an approved hydrant.

(d) Los Angeles Water Rate Ordinance

The City's Water Rate Ordinance was adopted in June 1995 and last amended by the City's Board of Water and Power Commissioners pursuant to Ordinance No. 184,130.

Effective since April 15, 2016, this City Water Rate Ordinance restructured water rates to help further promote conservation. Specifically, the goal of the ordinance is to incentivize water conservation while recovering the higher costs of providing water to high volume users and accelerating development of sustainable local water supplies. Tiered water rate schedules were established for: single-dwelling unit customers; multi-dwelling unit customers; commercial, industrial, and governmental customers and temporary construction; recycled water service; private water service; publicly-sponsored irrigation, recreational, agricultural, horticultural, and floricultural uses, community gardens and youth sports. The new water rate structure increases the number of tiers from two to four for single-dwelling unit customers. In addition, this ordinance intends to maintain cost-of-service principles, incremental tier pricing based on the cost of water supply, and added pumping and storage costs.

b. Existing Conditions

(1) Water Supply

LADWP is responsible for providing water within the City of Los Angeles limits and ensuring that the water quality meets applicable California health standards for drinking water. As the Project Site is located within the City, LADWP is the water provider for the Project Site. Water is supplied to the City from four primary sources: the Los Angeles Aqueducts, local groundwater, purchased water from MWD, and recycled water.²⁴ As shown in Table IV.L.1-1 on page IV.L.1-15, in 2016, the LADWP had an available water supply of 492,447 acre-feet, of which approximately 18 percent was from the Los Angeles Aqueducts, approximately 15 percent from local groundwater, approximately 65 percent from the MWD, and approximately 2 percent from recycled water. These water sources are described in further detail below.

(a) Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via the Los Angeles Aqueducts. The Los Angeles Aqueducts' supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions.

The City holds water rights in the Eastern Sierra Nevada where the Los Angeles Aqueducts' water supplies originate. These supplies originate from both streams and groundwater. As indicated in Table IV.L.1-1, approximately 95,566 acre-feet of LADWP's

²⁴ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 28, November 7, 2017.*

**Table IV.L.1-1
Los Angeles Department of Water and Power 2007–2016 Water Supply**

Calendar Year	Los Angeles Aqueducts	Local Groundwater	MWD	Recycled Water	Transfer, Spread, Spills, and Storage	Total^a
2007	127,392	88,041	439,353	3,595	57	658,438
2008	148,407	64,604	427,422	7,048	(1,664)	645,817
2009	137,261	66,998	351,959	7,570	(554)	563,234
2010	251,126	68,346	205,240	6,900	938	532,550
2011	357,752	49,915	119,481	7,708	153	535,009
2012	166,858	59,109	326,123	5,965	(1,182)	556,873
2013	64,690	66,272	438,534	9,253	2,404	581,153
2014	63,960	96,394	391,325	11,307	(2,080)	560,906
2015	33,236	80,155	378,439	9,829	(432)	501,227
2016	95,566	72,503	314,301	9,095	981	492,446

Units are in acre-feet.

^a *The figures presented account for the transfer, spread, spill, and storage of the water supply as determined by LADWP.*

Source: Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, page 29, November 7, 2017.

water supplies were from the Los Angeles Aqueducts in 2016. Average deliveries from the Los Angeles Aqueducts system from 2011 through 2016 were approximately 111,293 acre-feet of water annually. In recent years, Los Angeles Aqueducts supplies have been less than the historical average due to environmental restoration obligations in Mono and Inyo Counties.

Various lawsuits and injunctions, and resulting agreements affect water supplies from the Los Angeles Aqueducts. These include an agreement with the County of Inyo regarding groundwater levels and enhancement and mitigation projects in the Owens Valley, and the imposition of new regulatory requirements by the State Water Resources Control Board regarding export from Mono Lake and restoration and monitoring programs for the Mono Basin. In addition, in November 2014, an agreement between the City and the Great Basin Unified Air Pollution Control District was reached wherein LADWP will continue to implement measures to address dust emissions at Owens Lake and implement

additional water conservation through increasing use of water efficient and waterless dust control measures.²⁵

Based on modeling results provided in LADWP's 2015 Urban Water Management Plan, LADWP projects that the average annual long-term Los Angeles Aqueducts delivery between 2015 and 2040 is expected to be approximately 278,000 acre-feet per year and gradually decline to 267,000 acre-feet per year due to projected climate change impacts.²⁶ However, with completion of the Owens Lake Master Project by 2024, the projected Los Angeles Aqueducts delivery may increase to 286,000 acre-feet per year due to water conserved at Owens Lake, which would offset most of the anticipated long-term losses.²⁷

(b) Groundwater

LADWP owns water rights in the San Fernando, Sylmar, Eagle Rock, Central and West Coast Basins.²⁸ All of these basins are adjudicated by judicial decisions of the Superior Court of the State of California.

LADWP currently has combined water rights of approximately 109,809 acre-feet per year, of which approximately 87,000 acre-feet per year are located in the San Fernando Basin, 500 acre-feet per year in the Eagle Rock Basin, 1,503 acre-feet per year in the West Coast Basin, 17,236 acre-feet per year in the Central Basin and 3,570 acre-feet per year in the Sylmar Basin.²⁹ LADWP has accumulated nearly 537,622 acre-feet of stored water credits in the San Fernando Basin as of October 2014.³⁰ This water can be withdrawn from the basin during normal and dry years or in an emergency, in addition to LADWP's approximately 87,000 acre-feet per year entitlement in the basin.

As shown in Table IV.L.1-2 on page IV.L.1-17, during Fiscal Year 2014/2015, LADWP extracted 80,097 acre-feet from the San Fernando Basin and 6,948 acre-feet from

²⁵ Los Angeles Department of Water and Power, LADWP Newsroom, 2014 Archive, City of Los Angeles and Great Basin Unified Air Pollution Control District Reach Historic Comprehensive Agreement on Owens Lake Dust Mitigation, released November 14, 2014, www.ladwpnews.com/city-of-los-angeles-and-great-basin-unified-air-pollution-control-district-reach-historic-comprehensive-agreement-on-owens-lake-dust-mitigation/, accessed December 5, 2017.

²⁶ Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016.

²⁷ Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 31, November 7, 2017.

²⁸ Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016.

²⁹ Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016.

³⁰ Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 32, November 7, 2017.

**Table IV.L.1-2
Local Groundwater Basin Supply**

Fiscal Year (July-June)	San Fernando	Sylmar	Central
2010–2011	44,029	225	5,099
2011–2012	50,244	1,330	9,486
2012–2013	50,550	1,952	6,310
2013–2014	68,784	891	9,727
2014–2015	80,097	0	6,948
2019–2020 ^a	90,000	4,170	18,500
2024–2025 ^a	88,000	4,170	18,500
2029–2030 ^a	84,000	4,170	18,500
2034–2035 ^a	92,000	4,170	18,500
2039–2040 ^a	92,000	3,570	18,500

Units are in acre-feet.

^a *Projected groundwater production.*

Source: Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, November 7, 2017.

the Central Basin.³¹ LADWP plans to continue production from its groundwater basins in the coming years to offset reductions in imported water supplies. Extraction from the basins will, however, be limited by water quality, sustainable pumping practices, and groundwater elevation. Both LADWP and the Department of Water Resources have programs in place to monitor wells to prevent overdrafting. LADWP’s groundwater pumping practice is based on a “safe yield” operation, which is defined as the attainment and maintenance of a long-term balance between the annual amount of groundwater withdrawn by pumping and the annual amount of recharge. Furthermore, basin management is achieved by collective efforts of a court-appointed Watermaster and the Upper Los Angeles River Area Administrative Committee of representatives from five public water supply agencies overlying the Upper Los Angeles River Area Basins.³² These efforts include operation of groundwater remediation systems, use of an extensive network of groundwater monitoring wells, routine reporting on groundwater elevation and water quality, management and mitigation of urban runoff water quality, and development of enhanced stormwater recharge and groundwater replenishment.

³¹ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 32, November 7, 2017.*

³² *Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016.*

(c) Metropolitan Water District of Southern California (MWD)

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. MWD imports a portion of its water supplies from Northern California through the State Water Project's California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct. As one of the 26 member agencies of MWD, LADWP purchases water from MWD to supplement LADWP water supplies from the Los Angeles Aqueducts and local groundwater. As of June 30, 2016, LADWP has a preferential right to purchase 19.94 percent of MWD's total water supply.³³

Purchases from MWD have averaged 64 percent of the City's water supply over a five-year period from Fiscal Years 2011–2012 to 2015–2016.³⁴ The Sustainable pLAN calls for a reduction in purchased imported water by 50 percent by 2025 from the Fiscal Year 2013–2014 level, which was approximately 441,870 acre-feet.³⁵ To meet these targets, LADWP plans to reduce water demand through increased conservation as well as increased local supply development. Local supply development includes enhancing the ability of groundwater pumping through increased stormwater capture projects and groundwater replenishment with highly treated recycled water as well as remediation of contaminated groundwater supplies in the San Fernando Basin. LADWP also plans to increase recycled water use for non-potable purposes. With these initiatives and under average hydrologic conditions, LADWP's 2015 Urban Water Management Plan projects MWD purchases to be approximately 65,930 acre-feet per year in 2025, which would exceed the 50-percent reduction target.³⁶

Over the next 25 years, through continued and additional local supply development and conservation savings, LADWP's reliance on MWD water supplies may be reduced significantly from the five-year average from Fiscal Years 2010–2011 through 2015–2016 of 57 percent of total demand to 11 percent under average weather conditions and to 44 percent under single-dry year conditions by fiscal year 2040.³⁷ As indicated in Table IV.L.1-1 on page IV.L.1-15, in 2016, LADWP received approximately 314,301 acre-feet of water from MWD. LADWP will continue to rely on MWD to meet its current and future supplemental water needs. Summaries of MWD's individual supplies, along with the

³³ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 34, November 7, 2017.*

³⁴ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 35, November 7, 2017.*

³⁵ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 35, November 7, 2017.*

³⁶ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 35, November 7, 2017.*

³⁷ *Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, April 2016.*

challenges facing each supply and specific actions that MWD is taking to meet each of the challenges facing its water supplies, are presented below.

(i) *The Colorado River*

MWD owns and operates the Colorado River Aqueduct, which has delivered water from the Colorado River to Southern California since 1942.³⁸ The Colorado River currently supplies approximately 17 percent of Southern California's water needs, and on average makes up about 15 percent of LADWP's purchases from MWD.³⁹ 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.⁴⁰ In addition, California has historically been allowed to use Colorado River water apportioned to, but not used by, Arizona or Nevada. 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.⁴¹ MWD's total supply from the Colorado River for Calendar Year 2016 was approximately 985,000 acre-feet.⁴²

Challenges to Colorado River Supply

The Colorado River Basin has been experiencing a prolonged drought, with runoff in 2012 being among the four driest in history.⁴³ During these drought conditions, Colorado River system storage decreased to 50 percent of capacity.⁴⁴ MWD has developed a number of supply and conservation programs to increase the amount of supply available from the Colorado River. However, other users along the Colorado River have rights that will allow their water use to increase as their water demands increase. The Colorado River

³⁸ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 40, November 7, 2017.*

³⁹ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 40, November 7, 2017.*

⁴⁰ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 41, November 7, 2017.*

⁴¹ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 41, November 7, 2017.*

⁴² *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, p. 41, November 7, 2017.*

⁴³ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

⁴⁴ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

faces long-term challenges of water demands exceeding available supply with additional uncertainties due to climate change. Because MWD holds the lowest priority rights in California during a normal Lake Mead storage condition, the available future supply could decrease.⁴⁵ Through different agricultural water transfers and storage programs, MWD forecasts a supply of 902,000 acre-feet in the year 2035 under average year, single-dry year, and multi-dry year scenarios.⁴⁶

Federal and State environmental laws protecting fish species and other wildlife species also have the potential to affect Colorado River operations. A number of species that are either endangered or threatened are present in the Lower Colorado River. However, the Lower Colorado River Multi-Species Conservation Program allows MWD to obtain federal and State permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species.⁴⁷ The Lower Colorado River Multi-Species Conservation Program also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by MWD and other agencies.⁴⁸

Management of Colorado River Supply

There are various agreements and guidelines that affect the management of Colorado River water supplies, and MWD has taken steps to augment its share of Colorado River water supplies by entering into agreements with other agencies that have rights to use such water. Specifically, under a 1988 water conservation agreement between MWD and the Imperial Irrigation District, MWD provided funding for the Imperial Irrigation District to construct and operate a number of conservation projects that are currently conserving up to 109,460 acre-feet of water per year that is provided to MWD.⁴⁹ In addition, in August 2004, MWD and the Palo Verde Irrigation District signed an agreement for a Land Management, Crop Rotation and Water Supply Program, which provides up to 133,000 acre-feet of water to be available to MWD in certain years.⁵⁰ Furthermore, in May 2008,

⁴⁵ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

⁴⁶ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016, Table 3-1.*

⁴⁷ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-21, November 7, 2017.*

⁴⁸ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-21, November 7, 2017.*

⁴⁹ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-26, November 7, 2017.*

⁵⁰ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-26, November 7, 2017.*

MWD joined the Central Arizona Water Conservation District and the Southern Nevada Water Authority in funding of the Warren H. Brock Reservoir, which conserves approximately 70,000 acre-feet per year of water by capturing and storing water that would otherwise be lost from the system. In return for its funding, MWD received 100,000 acre-feet of water stored in Lake Mead for future use. As of January 1, 2016, MWD received 43,992 acre-feet of the water.⁵¹

MWD is also participating in numerous pilot programs to augment its water supplies. Other agreements and guidelines that continue to affect the management of water supplies from the Colorado River include the 2003 Quantification Settlement Agreement, which amended the 1998 Water Conservation and Transfer Agreement.⁵² Additional guidelines and programs that influence management of the Colorado River water supplies include the Interim Surplus Guidelines,⁵³ the Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead,⁵⁴ the Intentionally Created Surplus Program,⁵⁵ and the Quagga Mussel Control Program.⁵⁶

(ii) State Water Project

MWD imports water from the State Water Project, owned by the State of California and operated by the Department of Water Resources. The State Water Project is a water storage and delivery system of pump stations, reservoirs, aqueducts, tunnels, and power plants. The main purpose of the State Water Project is to divert and store surplus water during wet periods and distribute it to areas throughout the State. Other purposes of the State Water Project include flood control, power generation, recreation, fish and wildlife protection, and water quality management in the Sacramento–San Joaquin River Delta

⁵¹ *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-27, November 7, 2017.*

⁵² *The Quantification Settlement Agreement is an agreement that limits California's draw on the Colorado River to 4.4 million acre-feet per year. One component of the agreement represented the largest agricultural-to-urban water transfer in U.S. history at the time. As such, approximately 400,000 acre-feet per year of conserved water from Imperial Valley farms must be transferred to urban water agencies, such as the San Diego Water Authority. The agreement also calls for the delivery of flows to the Salton Sea until the end of 2017.*

⁵³ *The Interim Surplus Guidelines are used to determine the conditions under which certain availability of surplus water could be used within the lower basin states of Arizona, California, and Nevada.*

⁵⁴ *The Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead provide additional guidelines for the management and operation of Colorado River reservoirs, particularly for the lower basin states of Arizona, California, and Nevada.*

⁵⁵ *Intentionally Created Surplus water is water that has been conserved through a variety of programs using extraordinary conservation measures, such as land fallowing.*

⁵⁶ *The Quagga Mussel Control Program was developed in 2007 to control the spreading of the invasive quagga mussels in the Colorado River's canals and reservoirs.*

(Delta). The State Water Project 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 Department of Water Resources, and is the largest agency in terms of the number of people it serves (approximately 18.8 million), the share of the State Water Project that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to the Department of Water Resources by agencies with State water contracts (approximately 52 percent for 2016).⁵⁷

The State Water Project, under the original contracted amount at 100 percent allocation, provides MWD with 1,911,500 acre-feet of water each calendar year.⁵⁸ However, due to water quality and supply reliability challenges and conflicts due to variable hydrology and environmental standards that limit pumping operations, State Water Project deliveries in the most critically dry years have varied. Contractual amounts were 5 percent in 2014 and 20 percent in 2015.⁵⁹ On December 1, 2016, the Department of Water Resources had estimated an initial allocation of 20 percent for 2017, due to factors including, but not limited to: existing storage in State Water Project conservation reservoirs, conservation constraints for the delta smelt, and contractor demands.^{60,61} Due to the observed changes in hydrologic conditions, the Department of Water Resources subsequently increased 2017 allocation levels to 45 percent,⁶² 60 percent in January 2017,⁶³ and to 85 percent on April 14, 2017.⁶⁴

⁵⁷ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-10, November 7, 2017.*

⁵⁸ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-11, November 7, 2017.*

⁵⁹ Metropolitan Water District of Southern California, *2015 Urban Water Management Plan, June 2016.*

⁶⁰ California Department of Water Resources, *Notice to State Water Project Contractors, Number 16-09, 2017 State Water Project Initial Allocation—20 Percent.*

⁶¹ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project, Appendix O, p. A-11, November 7, 2017.*

⁶² California Department of Water Resources, *Notice to State Water Project Contractors, Number 16-10, 2017 State Water Project Allocation—45 Percent.*

⁶³ California Department of Water Resources, *Notice to State Water Project Contractors, Number 17-01, 2017 State Water Project Allocation—60 Percent.*

⁶⁴ California Department of Water Resources, *Notice to State Water Project Contractors, Number 17-05, 2017 State Water Project Allocation—85 Percent.*

Challenges to State Water Project Supply⁶⁵

Various regulations have created challenges for the State Water Project. 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 State Water Project operations and created more uncertainty in State Water Project supply reliability. Based on the Department of Water Resources' 2015 State Water Project Delivery Capability Report, future State Water Project deliveries will continue to be impacted by restrictions on State Water Project and Central Valley Project Delta pumping, and climate change, which is altering the hydrologic conditions in the State.

Programs Addressing Challenges within the Delta⁶⁶

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 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. Senate Bill 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 with the co-equal goals. The goal of the Bay Delta Conservation Plan was to provide a basis for the issuance of endangered species permits for the operation of the State Water Project and Central Valley Project, and for improvements related to the Delta conveyance. The Bay Delta Conservation Plan is intended to help reduce the risk posed by seismic activities to water supplies from the Delta, protect drinking water quality and help to alleviate conflicts between water management and environmental protection.

The draft Bay Delta Conservation Plan and associated EIR/EIS were made available for public review and comment in December 2013. In April 2015, State 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. A separate ecosystem effort referred to as California EcoRestore was also announced that includes restoration of at least 30,000 acres of Delta habitat. A Recirculated Draft EIR/Supplemental Draft EIS evaluating California WaterFix and cumulative impacts of California EcoRestore was prepared and released for public review in July 2015.^{67,68} Together, California WaterFix and California EcoRestore are

⁶⁵ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

⁶⁶ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

⁶⁷ *Bay Delta Conservation Plan, The Environmental Review Process, <http://baydeltaconservationplan.com/EnvironmentalReview/EnvironmentalReview/EnvironmentalReview.aspx>, accessed December 5, 2017.*

expected to make significant contributions toward achieving the coequal 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. On December 22, 2016, the California Department of Water Resources and the U.S. Bureau of Reclamation completed the Bay Delta Conservation Plan/California WaterFix Final EIR/EIS, which has been submitted to State and federal regulatory agencies for approval and permit authorization.⁶⁹ On January 18, 2017, the U.S. Environmental Protection Agency (USEPA) recommended that the lead agencies for WaterFix carefully consider such reasonably foreseeable operational constraints to ensure appropriate design and operation.⁷⁰

(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, federal, public and private water districts and individuals. The MWD is currently operating several State Water Project storage programs to increase the reliability of supplies from the California Aqueduct. 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.⁷¹

In addition, MWD continues to develop plans and make efforts to provide additional water supply reliability for the entire Southern California region. LADWP coordinates closely with MWD to ensure implementation of these water resource development plans.⁷² As discussed above, MWD's long-term plans to meet its member agencies' reliability needs include improvements to the State Water Project as outlined in the California WaterFix and EcoRestore Plans, conjunctive management efforts on the Colorado River, water transfer

⁶⁸ *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.*

⁶⁹ *California Department of Water Resources and the U.S. Bureau of Reclamation, Final Environmental Impact Report/Environmental Impact Statement for the Bay Delta Conservation Plan/California WaterFix, December 2016.*

⁷⁰ *U.S. Environmental Protection Agency, Director of Enforcement Division, to Bureau of Reclamation, Mid-Pacific Region, Regional Director, January 18, 2017.*

⁷¹ *Metropolitan Water District of Southern California, 2015 Urban Water Management Plan, June 2016.*

⁷² *Los Angeles Department of Water and Power, Water Supply Assessment—Paseo Marina Project, Board Letter Approval, p. 2, November 7, 2017.*

programs and outdoor conservation measures, and development of additional local resources, such as recycling brackish water desalination and seawater desalination.⁷³

Additionally, MWD has more than 5 million acre-feet of storage capacity of available reservoirs and banking/transfer programs, with approximately 1.25 million acre-feet, inclusive of Intentionally Created Surplus, in that storage, and 626,000 acre-feet in emergency storage as of January 1, 2017.⁷⁴ MWD plans to add to the storage in 2017.⁷⁵ As described in the MWD's 2015 Urban Water Management Plan, 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.

(d) Precipitation Conditions

During the 2017 water year (i.e., October 1, 2016 through September 30, 2017), California experienced improved precipitation conditions and above-average snowpack levels. By August 31, 2017, statewide precipitation conditions totaled 165 percent of average and reservoir storage totaled 120 percent of average.⁷⁶

As of November 30, 2017, 69 percent of the State was not in a drought condition, and no part of the State faced severe, extreme, or exceptional drought.⁷⁷ This represents a significant improvement from measurements taken on October 11, 2016, when the entire State was in a drought condition, and 43 percent of the State was facing either extreme or exceptional drought, the highest classifications defined by the US Drought Monitor.⁷⁸ Nonetheless, the potential for extended drought conditions in future years persists. Thus, the State continues to develop and implement necessary strategies and actions to address future drought conditions.

⁷³ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project*, p. 42, November 7, 2017.

⁷⁴ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project*, p. 43, November 7, 2017.

⁷⁵ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project*, p. 43, November 7, 2017.

⁷⁶ California Department of Water Resources, *Executive Update, Hydrologic Conditions in California*, cdec.water.ca.gov/cgi-progs/reports/EXECSUM, accessed October 16, 2017.

⁷⁷ United States Drought Monitor, *State Drought Monitor, California, November 30, 2017*, droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CA, accessed December 5, 2017.

⁷⁸ United States Drought Monitor, *State Drought Monitor, California, Tabular Data Archive, California*, droughtmonitor.unl.edu/Data/DataTables.aspx?state,CA, accessed December 5, 2017.

(e) *Global Warming and Climate Change*

As discussed in LADWP's 2015 Urban Water Management Plan, generally speaking, water supplies that are dependent on natural hydrology are vulnerable to climate change, especially if the water source originates from mountain snowpack. For LADWP, the most vulnerable water sources subject to climate change impacts are imported water supplies from MWD and the Los Angeles Aqueducts. Local sources can expect to see some changes in the future as well. In addition to water supply impacts, changes in local temperature and precipitation are expected to alter water demand patterns. However, there is still general uncertainty within the scientific community regarding the potential impacts of climate change within the City of Los Angeles. LADWP continues to monitor the latest developments in scientific knowledge and will continue to assess future research for the potential impacts of climate change on its water resources.

MWD and the Department of Water Resources also continue to study climate change and address the implications of climate change on water supplies. MWD has established a technical process to identify key vulnerabilities from various sources, including climate change, in order to provide comprehensive analyses within its Integrated Water Resources Plans. In addition, the Department of Water Resources addresses climate change impacts on water supply in its California Water Plan Updates, which also account for uncertainty, risk, and sustainability in planning for the future.⁷⁹ As mentioned above, with updates published every five years, the most recent *California Water Plan Update 2013* will be followed by an update for 2018 that will incorporate the issue of climate change. The Department of Water Resources has also been in the process of completing its Climate Action Plan since 2012. Phases I and II of the Climate Action Plan include the guidance of the Department of Water Resources in reducing greenhouse gas emission and the expertise of a climate change technical advisory group formed in 2012, respectively. Phase III of the Climate Action Plan includes the preparation of a climate change vulnerability assessment and adaptation plan, which describes, evaluates, and quantifies, where possible, the vulnerabilities of Department of Water Resources assets and business activities using projected changes in temperature, wildfire, sea level rise, and hydrology (including precipitation, snowpack runoff, and flooding), and water supply.⁸⁰ As of fall 2017, the vulnerability assessment portion of Phase III is complete and undergoing review. The adaptation plan portion of Phase III will be prepared in 2018.⁸¹ As such,

⁷⁹ California Department of Water Resources, *California Water Plan Update 2013, Investing in Innovation & Infrastructure, Highlights, October 2014*.

⁸⁰ California Department of Water Resources, *Climate Action Plan*, www.water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan, accessed February 12, 2018.

⁸¹ California Department of Water Resources, *Climate Action Plan*, www.water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan, accessed February 12, 2018.

climate change and its impacts on water supplies are key factors of new water supply regulations and urban water management plans.

(f) Water Conservation and Recycling

LADWP's 2015 Urban Water Management Plan details the City's efforts to promote the efficient use and management of its water resources and provides the basic policy principles that guide LADWP's decision-making process to secure a sustainable water supply for the City of Los Angeles in the next 25 years. To meet multiple water conservation goals established in Executive Directive No. 5, the Sustainable City pLAN, and the Water Conservation Act of 2009, LADWP's 2015 Urban Water Management Plan aims to reduce per capita potable water use by 20 percent by 2017, by 22.5 percent by 2025, and by 25 percent by 2035, based on Fiscal Year 2013–2014 levels.⁸² Furthermore, the LADWP is projected to increase recycled water use to 59,000 acre-feet per year by 2025 through planned municipal/industrial use and indirect potable reuse (i.e., groundwater replenishment). With the potential growth in customer demand, the LADWP projects that recycled water use will reach 75,400 acre-feet per year by 2040.⁸³

Overall, LADWP's 2015 Urban Water Management Plan projects a 7-percent lower water demand trend than what was projected in the previous 2010 Urban Water Management Plan.⁸⁴ In addition, based on programs and improvements contemplated in LADWP's 2015 Urban Water Management Plan, locally developed water supplies would increase from the current 14 percent to 49 percent in dry years, or to 47 percent in average years by 2040.⁸⁵

(2) Water Demand

(a) Regional Water Demand

LADWP's 2015 Urban Water Management Plan provides water supply and demand projections in five-year increments to 2040, based on projected population estimates provided by the Southern California Association of Governments (SCAG) in its 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (2012–2035 RTP/SCS).⁸⁶

⁸² Los Angeles Department of Water and Power, *2015 Urban Water Management Plan*, June 2016.

⁸³ Los Angeles Department of Water and Power, *2015 Urban Water Management Plan*, June 2016.

⁸⁴ Los Angeles Department of Water and Power, *Water Supply Assessment—Paseo Marina Project*, p. 12, November 7, 2017.

⁸⁵ Los Angeles Department of Water and Power, *2015 Urban Water Management Plan*, June 2016.

⁸⁶ Since preparation of the 2015 Urban Water Management Plan, new growth forecasts have become available in SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). However, the 2016 forecasts are only marginally higher than the 2012 forecasts, in terms of (Footnote continued on next page)

Table IV.L.1-3 on page IV.L.1-29 shows the projected water demand from the year 2020 through 2040 for the City of Los Angeles.

As shown in Table IV.L.1-3, in 2040 during average year hydrologic conditions, the City's water demand is forecasted to be approximately 675,700 acre-feet per year. Use of the current demand per capita within this forecast provides a conservative estimate of projected future water demand to ensure that water supplies are available to meet projected demands. LADWP's 2015 Urban Water Management Plan anticipates adequate water supplies would be available to meet the projected demands of the service areas under normal, single-dry, and multi-dry year conditions through 2040.⁸⁷

As discussed above, as of February 2, 2017, the City has met its goal established by Executive Directive No. 5 and the Sustainable City pLAN to reduce the per capita water use by 20 percent by 2017. The City's potable water consumption has been reduced to 104 gallons per capita per day, which equates to a 20 percent reduction from the 131 gallons per capita per day baseline in Fiscal Year 2013–2014.⁸⁸

(b) On-Site Water Demand

The Project Site comprises an approximately six-acre portion of the existing Marina Marketplace shopping center. The Project Site is currently occupied by three shopping center-related buildings, totaling 100,781 square feet and associated surface parking areas. Landscaping within the Project Site includes ornamental landscaping and hardscape features. Street trees and trees within the Project Site consist of various non-native species, including palm, pine, fig, gum, fern, cajeput, carrotwood, octopus, strawberry, and olive trees. As provided by LADWP in the Project's WSA and summarized in Table IV.L.1-4 on page IV.L.1-36 later in this section, the existing uses on the Project Site generate a water demand of approximately 5,295 gallons per day or approximately 5.93 acre-feet per year (AFY).

(3) Water Infrastructure

Water infrastructure in the vicinity of the Project Site is maintained and operated by LADWP. LADWP ensures the reliability and quality of its water supply through an

current (2016) estimates and future (2040) projections and would, therefore, not significantly affect water demand projections.

⁸⁷ Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016, Exhibits 11E–11K.

⁸⁸ City of Los Angeles, Mayor Eric Garcetti, Press Release, Los Angeles Achieves Mayor Garcetti's Goal of 20 Percent Water Savings, released February 2, 2017, www.lamayor.org/los-angeles-achieves-mayor-garcetti%E2%80%99s-goal-20-percent-water-savings, accessed December 5, 2017.

Table IV.L.1-3
City of Los Angeles Water Demand Projections Based on Hydrologic Conditions
(thousand AFY)

Hydrologic Conditions ^a	Year				
	2020	2025	2030	2035	2040
Average Year	611.8	644.7	652.9	661.8	675.7
Single Dry Year	642.4	676.9	685.5	694.9	709.5
Multi-Dry Year	642.4	676.9	685.5	694.9	709.5

AFY = acre-feet per year
Demands include existing passive conservation.

^a The LADWP defined three hydrologic conditions: average year (50-year average hydrology from Fiscal Years 1961–1962 through 2010–2011; single dry year (such as a repeat of the Fiscal Year 2014–2015 drought; and multi-dry year (such as a repeat of Fiscal Years 2012–2013 through 2014–2015.)

Source: Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016, Exhibits 11F, 11G, and 11H.

extensive distribution system that includes 118 storage tanks and reservoirs, 96 pump stations, 7,337 miles of distribution mains and trunk lines within the City, and a total storage capacity of 311,000 acre-feet according to the estimates for Fiscal Year 2015–2016.⁸⁹ Much of the water flows north to south, entering Los Angeles at the Los Angeles Aqueduct Filtration Plant in Sylmar, which is owned and operated by LADWP. Water entering the Los Angeles Aqueduct Filtration Plant undergoes treatment and disinfection before being distributed throughout the LADWP's water service area.⁹⁰ Domestic water service is available to the Project Site via LADWP water lines within the adjacent streets. According to the Infrastructure Assessment Report included in Appendix O of this Draft EIR, there is a 12-inch water main located in Maxella Avenue, a 12-inch water main located in Glencoe Avenue, and an 8-inch water main that runs along the southeastern portion of the Project Site.

LADWP also provides water for firefighting services in accordance with the City's Fire Code (LAMC Chapter V, Article 7). As discussed in the Infrastructure Assessment Report, there are currently six fire hydrants located within 300 feet of the Project Site, including two hydrants along Maxella Avenue and four hydrants on Glencoe Avenue. All hydrants are served by existing 6-inch water lines.

⁸⁹ Los Angeles Department of Water and Power, 2017–2018 Briefing Book, June 2016.

⁹⁰ Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, June 2016.

3. Project Impacts

a. Thresholds of Significance

In accordance with the State CEQA Guidelines Appendix G, the Project would have a significant impact related to water supply and infrastructure if it would:

Threshold (a): 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; or

Threshold (b): Have sufficient water supplies available to serve the project from existing entitlements and resources, or would need new or expanded entitlements.

The L.A. CEQA Thresholds Guide identifies the following criteria to evaluate water supply and infrastructure:

- The total estimated water demand for the project;
- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout;
- The amount by which the project would cause the projected growth in population, housing or employment for the Community Plan area to be exceeded in the year of project completion; and,
- The degree to which scheduled water infrastructure or project design features would reduce or offset service impacts.

b. 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. Consistent with LADWP's methodology presented in the Project's WSA, the estimated water demand for the Project is calculated by applying the City of Los Angeles Bureau of Sanitation's (LASAN) sewage generation rates to the Project's proposed uses. To determine the Project's net water demand, the water demands of the existing uses were subtracted from the Project's total water demand. The Project's total water demand also accounted for the water saving features required by the LAMC and the water saving features above LAMC requirements to be implemented by the Project. The resulting net demand for water associated with the Project is then analyzed relative to LADWP's existing and planned future water supplies to

determine if LADWP would be able to accommodate the Project's water demands during average, single-dry, and multiple-dry years hydrologic conditions.

The analysis with regard to water infrastructure is based on the Infrastructure Assessment Report prepared for the Project by Fuscoe Engineering, dated January 26, 2018, which is included in Appendix O of this Draft EIR. The Infrastructure Assessment Report includes a comparison of the estimated net water demand for the Project to the available capacity of the existing water infrastructure.

c. Analysis of Project Impacts

(1) Project Design Features

The following project design features are applicable to the Project with regard to water supply and infrastructure:

Project Design Feature WAT-PDF-1: In addition to regulatory requirements, the Project design will incorporate the following design features to support water conservation in excess of LAMC requirements:

- High-Efficiency Dual-Flush Toilets for residential units with a flush volume of 0.92 to 1.28 gallons per flush.
- High-Efficiency Showerheads with a flow rate of 1.5 gallons per minute.
- Domestic Water Heating System located in close proximity to point(s) of use.
- Individual metering and billing for water use for every residential dwelling unit.
- Tankless and on-demand Water Heaters installed in non-residential restrooms
- Water-Saving Pool Filter.
- Pool/Spa recirculating filtration equipment.
- Installation of a meter on the pool make-up line such that water use can be monitored and leaks can be identified and repaired.
- Leak Detection System for swimming pools and spa.
- Drip/Subsurface Irrigation (Micro-Irrigation).
- Artificial turf in dog park areas.
- Proper Hydro-zoning/Zoned Irrigation (groups plants with similar water requirements together).

- Drought-Tolerant Plants—minimum of 85 percent of total landscaping.

(2) Analysis of Project Impacts

Threshold (a): 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?

(a) Construction

As discussed in the Infrastructure Assessment Report included as Appendix O to this Draft EIR and as summarized below, the Project would require the installation of new services and upgrades to existing on-site water services to serve the new buildings and uses. Construction impacts associated with the installation of water distribution lines would primarily involve trenching to place the lines below surface. In addition, installation of new water infrastructure would include on-site water distribution improvements, off-site work associated with connections to the public main, and upgrades required by LADWP. As the design and installation of new service connections would be required to meet applicable City standards, the Project contractors would coordinate with the LADWP to identify the locations and depth of all lines prior to ground disturbance. Furthermore, LADWP would be notified in advance of proposed ground disturbance activities in order to avoid water lines and disruption of water service.

The limited off-site connection activities could also temporarily affect access in adjacent rights-of-way. However, as discussed in Section IV.J, Traffic, Access, and Parking, of this Draft EIR, a Construction Traffic Management Plan would be implemented during Project construction pursuant to Project Design Feature TR-PDF-1 to ensure that adequate and safe access remains available within and near the Project Site during construction activities. The construction management plan would identify the location of any temporary street parking or sidewalk closures, warning signs, and access to abutting properties. Appropriate construction traffic control measures (e.g., detour signage, delineators, etc.) would also be implemented, as necessary, to ensure emergency access to the Project Site and traffic flow is maintained on adjacent rights-of-way.

Overall, construction activities associated with the Project would not require or result in the construction of new water facilities or expansion of existing facilities that could have a significant impact on the environment. According to the Service Advisory Request provided in the Infrastructure Assessment Report, the existing water distribution capacity would be adequate to serve the construction of the Project. Furthermore, as discussed above, minor offsite construction impacts associated with installation of the new service connections

would be temporary in nature and would not result in a substantial interruption in water service or inconvenience to motorists or pedestrians.

(b) Operation

As discussed above, water service to the Project Site would continue to be supplied by LADWP for domestic and fire protection uses. While domestic water demand is typically the main contributor to operational water consumption, fire flow demands have a much greater instantaneous impact on infrastructure, and therefore, are the primary means for analyzing infrastructure capacity.

Fire flow to the Project would be required to meet City fire flow requirements. Specifically, the Project would comply with LAMC Section 57.507.3.1, which establishes fire flow standards by development type. As identified by the LAFD in its written correspondence provided in Appendix H of this Draft EIR, the Project has a required fire flow of 6,000 gallons per minute to 9,000 gallons per minute from four to six adjacent fire hydrants flowing simultaneously with a minimum residual water pressure of 20 pounds per square inch remaining in the water system based on the Industrial and Commercial category. In addition to LAFD requirements, the on-site building fire sprinkler system is required to have 2,500 gallons per minute and the required domestic service capacity is 1,500 gallons per minute.

As discussed in the Infrastructure Assessment Report, a Service Advisory Request application was submitted to LADWP to determine if the existing public water system would have adequate water pressure to serve the Project's anticipated fire and domestic water needs. LADWP has indicated that the existing public water system would provide adequate water pressure for both fire and domestic services with more than the required residual pressure of 20 pounds per square inch available in the water system. Specifically, the results of the Service Advisory Request showed that each of the six hydrants located in the vicinity of the Project Site have 1,500 gallons per minute of flow capacity. The lowest pressure among the six fire hydrants was 66 pounds per square inch, which is above the minimum of 20 pounds per square inch. Therefore, a total of 9,000 gallons per minute can be provided from six hydrants flowing simultaneously, which would satisfy the requirements of the LAFD.

To determine if the existing system can provide 1,500 gallons per minute for domestic supply and 2,500 gallons per minute for the building fire sprinkler system, two additional Service Advisory Requests were submitted to LADWP to assess the ability for the 12-inch water lines in both Glencoe Avenue and Maxella Avenue to provide these flow requirements. The 12-inch water main in Maxella Avenue and the 12-inch main in Glencoe Avenue were analyzed for capacity to simultaneously provide for the on-site fire suppression system and domestic water service through the proposed 8-inch onsite water

connections. The Service Advisory Request analysis identified that the 12-inch water line in Maxella Avenue has the capacity to provide 2,500 gallons per minute at 65 pounds per square inch for fire suppression requirements while simultaneously providing the peak instantaneous domestic water demand of 1,500 gallons per minute for the Project. The Glencoe Avenue Service Advisory Request identified that the 12-inch line in Glencoe Avenue has the capacity to provide 4,000 gallons per minute at 47 pounds per square inch for fire suppression (2,500 gallons per minute) and domestic service requirements (1,500 gallons per minute). Therefore, both water lines in Maxella Avenue and Glencoe Avenue satisfy the requirements independently and either could be used as the main water line connection to the Project Site.

Additionally, as set forth in LAMC Section 57.507.3.2, land uses considered in the Industrial and Commercial category, such as the Project, require one hydrant per 80,000 square feet of land with 300-foot distances between hydrants and 2.5-inch by 4-inch or 4-inch by 4-inch double fire hydrants. Regardless of land use, every first story of a residential, commercial, and industrial building must be within 300 feet of an approved hydrant. As previously described, there are currently six existing LADWP fire hydrants located within 300 feet of the Project Site. Two hydrants are located along Maxella Avenue and four hydrants are located on Glencoe Avenue. Based on consultation with LADWP, LADWP's initial review of the Project determined that no additional fire hydrants would be required to provide adequate fire coverage. If later required by the LAFD during their fire/life safety plan review, the Project would install additional fire hydrant(s) to meet the hydrant spacing requirements as set forth in LAMC Section 57.507.3.2. The number and location of hydrants would be determined as part of LAFD's fire/life safety plan review for the Project.

Based on the above, the Project would not exceed the available capacity within the water distribution infrastructure that would serve the Project Site. In addition, the water distribution capacity would be adequate to serve the Project.

Accordingly, the Project would not require or result in the construction of new water facilities or expansion of existing facilities. In addition, the water distribution capacity would be adequate to serve the Project. Therefore, the Project's impacts on water infrastructure would be less than significant.

Threshold (b): Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

(a) Construction

Construction activities for the Project would result in a temporary demand for water associated with dust control, equipment and site cleanup, excavation and export, soil compaction and earthwork, mixing and placement of concrete, irrigation for plant and landscaping establishment, testing of water connections and flushing, and other short-term related activities. These activities would occur incrementally throughout construction of the Project (from the start of construction to Project buildout). The amount of water used during construction would vary depending on soil conditions, weather, and the specific activities being performed. As discussed in the Infrastructure Assessment Report, a conservative estimate of construction-related water use would range from 2,500 gallons per day to 3,000 gallons per day per acre. Using this assumption, the total construction-period water use for the Project is estimated to be approximately 18,000 gallons per day. This estimate would be substantially less than the Project's net new water consumption at buildout of 71,837 gallons per day. In addition, with the removal of the existing uses, which consume approximately 5,295 gallons per day of water, the temporary and incremental construction-related water demand of the Project would be partially offset. Furthermore, as concluded in LADWP's 2015 Urban Water Management Plan, projected water demand for the City would be met by the available supplies during all hydrologic conditions (average year, single-dry year, and multiple-dry year) in each year from 2020 through 2040. Construction of the Project is anticipated to be complete by 2023. Therefore, the Project's temporary and intermittent demand for water during construction could be met by the City's available supplies during each year of Project construction.

(b) Operation

As described in Section II, Project Description, of this Draft EIR, the Project would replace three buildings within the existing Marina Marketplace shopping center that together comprise approximately 100,781 square feet of floor area and associated surface parking areas with a new mixed-use development consisting of 658 multi-family residential units and up to 27,300 square feet of neighborhood-serving commercial uses, including up to 13,650 square feet of retail space and up to 13,650 square feet of restaurant space. Development of the Project would result in an increase in long-term water demand for consumption, operational uses, maintenance, and other activities on the Project Site.

Based on the proposed land uses and the Project's resulting estimated water demand, the Project is subject to the requirements of Senate Bill 610 (preparation of a WSA, as described above in Section 2.a(1)(a) on page IV.L.1-1). Accordingly, a WSA was prepared for the Project by LADWP and is provided in Appendix O of this Draft EIR. Consistent with LADWP's methodology, the analysis of the Project's impacts relative to water supply is based on a calculation of the Project's water demand by applying the sewage generation factors established by LASAN, which also serve to estimate water demand to the proposed uses. As shown in Table IV.L.1-4 on page IV.L.1-36, assuming

**Table IV.L.1-4
Estimated Project Water Demand**

Land Use	No. of Units/ Floor Area	Water Demand Rate (gpd/unit) ^a	Demand (gpd)
EXISTING			
Commercial	100,781 sf		5,295 ^b
Total Existing			5,295
PROPOSED^c			
Residential			
Studio	97 du	75	7,275
1-Bedroom	386 du	110	42,460
2-Bedroom	175 du	150	26,250
Base Demand Adjustment ^d			8,050
Gym/Fitness Center	1,000 sf	0.65	650
Lobby	2,250 sf	0.05	113
Pool/Spa	2,000 sf		166
Indoor Lounge/Clubhouse	3,150 sf	0.05	158
Outdoor Lounge	1,670 sf	0.05	84
Roof Deck ^e	5,288 sf	0.05	264
Conference Rooms	2,400 sf	0.12	288
Theater Space ^g	18 seats	3	53
Game/Rec Room ^h	650 sf	0.05	33
Total Residential^f			85,844
Commercial			
Restaurant: Full Service	683 seat	30	20,475
Retail	13,650 sf	0.025	341
Total Commercial/Institutional			20,816
Landscaping ⁱ	41,400 sf		3,413
Covered Parking Structure ^j	497,096 sf	0.02	327
Subtotal Water Demand			110,400
Less Required Ordinances Water Savings			(31,164)
Proposed Water Demand			79,236
Less Existing to be Removed			(5,295)
Less Additional Conservation ^k			(2,104)
Net Additional Water Demand (Proposed – Existing – Additional Conservation)			71,837
<hr/> <i>du = dwelling units</i> <i>bd = bedroom</i> <i>sf = square feet</i> <i>stu = students</i>			

Table IV.L.1-4 (Continued)
Estimated Project Water Demand

Land Use	No. of Units/ Floor Area	Water Demand Rate (gpd/unit) ^a	Demand (gpd)
<p><i>rm = rooms</i> <i>gpd = gallons per day</i> <i>Note: Some numbers do not add up perfectly due to rounding.</i></p> <p>^a <i>Based on sewage generation rates provided by the City of Los Angeles Bureau of Sanitation (2012).</i> ^b <i>Existing water demand is based on LADWP billing data (annual average from 2011 to 2017).</i> ^c <i>The proposed development land uses will conform to Ordinance No. 184248, 2013 California Plumbing Code, 2013 California Green Building Code, 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code.</i> ^d <i>Base Demand Adjustment is the estimated savings due to Ordinance No. 180,822 accounted for in the current version of Bureau of Sanitation Sewer Generation Rates.</i> ^e <i>Roof Deck in totality is assumed to have similar water use to outdoor lounge.</i> ^f <i>Common and private open space and amenities for residents not shown here do not have additional water demand.</i> ^g <i>Theater Space is assumed to have 1 seat per 40 sf.</i> ^h <i>Game/Recreation Room is assumed to have similar water use to indoor lounge.</i> ⁱ <i>Landscaping water use is estimated per California Code of Regulations Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.</i> ^j <i>Auto parking water uses are based on City of Los Angeles Bureau of Sanitation Generation Rates table and 12 times/year cleaning assumption.</i> ^k <i>Water conservation due to additional conservation commitments agreed by the Applicant. Table II of the WSA provides a detailed breakdown of these conservation commitments and is included in Appendix O of this Draft EIR.</i></p> <p><i>Source: LADWP, Water Supply Assessment—Paseo Marina Project; Eyestone Environmental, 2017.</i></p>			

constant water use throughout the year, the Project would result in a net average daily water demand of 71,837 gallons per day, or approximately 80.48 acre-feet per year, including water saving features as required by the LAMC and additional water saving features as set forth in Project Design Feature WAT-PDF-1, above, that would reduce the Project's net water demand by an additional 2.8 percent.

As provided in the WSA for the Project, LADWP concluded that the projected water supplies for normal, single-dry, and multiple-dry years reported in LADWP's 2015 Urban Water Management Plan would be sufficient to meet the Project's estimated water demand, in addition to the existing and planned future water demands within LADWP's service area through the year 2040.

The 2015 Urban Water Management Plan forecasts adequate water supplies to meet all projected water demands in the City for normal, single-dry, and multiple-dry years through the year 2040. Furthermore, as outlined in the 2015 Urban Water Management

Plan, LADWP is committed to providing a reliable water supply for the City. The 2015 Urban Water Management Plan takes into account climate change and the concerns of drought and dry weather and notes that the City of Los Angeles will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling. The 2015 Urban Water Management Plan also furthers the goals of the City's Executive Directive No. 5 and Sustainable City pLAn. The 2015 Urban Water Management Plan also addresses the current and future State Water Project supply shortages and concludes that MWD's actions in response to the threats to the State Water Project would ensure continued reliability of its water deliveries. By focusing on demand reduction and alternative sources of water supplies, LADWP would further ensure that long-term dependence on MWD supplies will not be exacerbated by potential future shortages. Additionally, as described above, water conservation and recycling will play an increasing role in meeting future water demands in the City.

The 2015 Urban Water Management Plan utilized SCAG's 2012–2035 RTP data that provide for reliable water demand forecasts, taking into account changes in population, housing units and employment. As discussed in the Initial Study prepared for the Project, which is included as Appendix A of this Draft EIR, the Project would generate a net of approximately 1,606 new residents, 658 new households, and a loss of 199 employees. The Project would be consistent with growth projections anticipated by the SCAG and the demographic projection for the City in both the 2012–2035 RTP/SCS and the 2016–2040 RTP/SCS. Specifically, based on SCAG's most recent projections for the City of Los Angeles Subregion between 2017 and 2035, the estimated 1,606 residents generated by the Project would represent approximately 1.33 percent of the projected population growth, and the estimated 658 households would represent approximately 0.93 percent of the projected household growth.⁹¹ Therefore, the Project would be well within SCAG's growth projections for the City of Los Angeles Subregion.

Based on the above, the estimated water demand for the Project would not exceed the available supplies projected by LADWP. Thus, LADWP would be able to meet the water demand of the Project, as well as the existing and planned future water demands of its service area. **As such, sufficient water supplies would be available to serve the**

⁹¹ *Based on a linear interpolation of SCAG's 2012–2040 data. The 2017 values for population, housing, and employment are calculated using SCAG's 2012 and 2040 values to find the average increase between years and then applying that annual increase to each year until 2017.*

Population growth between 2017 (3,936,400 persons) and 2023 (4,057,480 persons) is approximately 121,080 persons. The Project's 1,606 new residents would represent approximately 0.56 percent of this growth $[(1,606 \div 121,080) \times 100 = 1.33]$.

Household growth between 2017 (1,419,250 households) and 2023 (1,489,880 households) is approximately 70,630 households. The Project's 658 new households would represent approximately 0.39 percent of this growth $[(658 \div 70,630) \times 100 = 0.93]$.

Project from existing entitlements and resources, and impacts on water supplies would be less than significant.

d. Cumulative Impacts

The Project, in conjunction with growth forecasted in the City through 2023 (i.e., the Project's 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 Project Site vicinity through 2023 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.

(1) Water Infrastructure

The geographic context for the cumulative impact analysis on water infrastructure is the vicinity of the Project Site (i.e., the water infrastructure that would serve the Project). Development of the Project and future new development in the vicinity of the Project Site would cumulatively increase demands on the existing water infrastructure system. However, as with the Project, other new development projects would be subject to LADWP review to assure that the existing public infrastructure would be adequate to meet the domestic and fire service water demands of each project, and individual projects would be subject to LADWP and City requirements regarding infrastructure improvements needed to meet respective water demands, flow and pressure requirements, etc. Furthermore, LADWP, Los Angeles Department of Public Works, and LAFD would conduct ongoing evaluations of its infrastructure to ensure facilities are adequate. **Therefore, the Project and related projects would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Cumulative impacts on the water infrastructure system would be less than significant.**

(2) Water Supply

The geographic context for the cumulative impact analysis on water supply is the LADWP service area (i.e., the City and portions of the cities of West Hollywood, Culver City, South Pasadena, and the Owens Valley). As discussed above, LADWP, as a public water service provider, is required to prepare and periodically update its urban water management plan to plan and provide for water supplies to serve existing and projected demands. LADWP's 2015 Urban Water Management Plan accounts for existing development within the LADWP service area, as well as projected growth through the year 2040. Additionally, under the provisions of Senate Bill 610, LADWP is required to prepare a comprehensive WSA for every new development "project" (as defined by Section 10912 of the Water Code) within its service area that reaches certain thresholds. The WSA 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.

As identified in Section III, Environmental Setting, of this Draft EIR, there are 39 related projects located in the Project Site vicinity. As shown in Table IV.L.1-5 on page IV.L.1-41, the related projects would generate a total average water demand of approximately 1,150,194 gallons per day. The estimate of the related projects' water demand is conservative as it does not account for water conservation measures, such as the mandatory indoor water reduction rates required by the City of Los Angeles Green Building Code, additional water conservation measures above code that may be implemented, or the water demand of the existing uses on project sites that the related projects may remove. The net water demand of the Project would be 71,837 gallons per day. Accordingly, the Project's net water demand, in conjunction with the related projects' water demand would yield a cumulative average water demand of approximately 1,222,031 gallons per day.

As previously stated, based on water demand projections through 2040 in LADWP's 2015 Urban Water Management Plan, LADWP determined that it will be able to reliably provide water to its customers through the year 2040, as well as the intervening years (i.e., 2023, the Project's buildout year) based on demographic growth projections in SCAG's 2012–2035 RTP/SCS. In addition, the WSA prepared for and adopted by LADWP for the Project concluded that LADWP will be able to meet the proposed water demand of the Project together with the existing and planned future water demands of the City. Compliance of the Project and other future development projects with the numerous regulatory requirements that promote water conservation described above would also reduce water demand on a cumulative basis. For example, certain related projects would be subject to the City's Green Building Code requirement to reduce indoor water use by at least 20 percent and all projects would be required to use fixtures that conserve water. In addition, certain large related projects meeting the thresholds under Senate Bill 610 would be required to prepare and receive LADWP approval of a WSA that demonstrates how the project's water demand will be met.

Overall, as discussed above, LADWP's 2015 Urban Water Management Plan demonstrates that LADWP will meet all new water demands from projected population growth, through a combination of water conservation and water recycling. LADWP's 2015 Urban Water Management Plan specifically outlined the creation of sustainable sources of water for the City to reduce dependence on imported supplies. LADWP's 2015 Urban Water Management Plan also incorporates the water conservation goals of Executive Directive No. 5 and the City's Sustainability pLAN. LADWP is planning to achieve these goals by expanding its water conservation efforts through public education, installing high-efficiency water fixtures, providing incentives, and expanding the City's outdoor water

**Table IV.L.1-5
Cumulative Water Demand**

No.	Project	Land Use	Size	Generation Factor ^{a,b}	Total Water Demand (gpd)
City of Los Angeles					
1	High-Turnover Restaurant 1020 E. Venice Blvd.	High-Turnover Restaurant	3,895 gsf	30 gpd/seat	3,895
2	New Apartment & Office Building 4140 S. Glencoe Ave.	Apartments	67 du	190 gpd/du	12,730
		Office	3,211 gsf	0.12 gpd/sf	385
3	D1 by CLG 4210 S. Del Rey Ave.	Condominiums	136 du	190 gpd/du	25,840
		Office	14,929 gsf	0.12 gpd/sf	1,791
4	4040 Del Rey Avenue Apartment Project 4040 S. Del Rey Ave.	Apartments	230 du	190 gpd/du	43,700
		Office	18,800 gsf	0.12 gpd/sf	2,256
5	Marina Island 5000 Beethoven St.	Apartments	236 du	190 gpd/du	44,840
		Office	18,077 gsf	0.12 gpd/sf	2,169
6	Teledyne Office Project 12964 W. Panama St.	Office	159,000 gsf	0.12 gpd/sf	19,080
7	New Three-Story Manufacturing & Retail 595 Venice Blvd.	Office	25,150 gsf	0.12 gpd/sf	3,018
		Retail	5,028 gsf	0.025 gpd/sf	126
		Other	5,930 gsf	0.05 gpd/sf	297
8	Westside Neighborhood School 12901 W. Coral Tree Pl.	School	68 stu	9 gpd/stu	612
9	12575 Beatrice Street Office Project 12575 Beatrice St.	Office	173,028 gsf	0.12 gpd/sf	20,763
		Restaurant	2,500 gsf	30 gpd/seat	2,500
		Retail	900 gsf	0.025 gpd/sf	23
10	Playa Vista Plant Site (Spruce Goose) Campus Center Dr./Bluff Creek Dr.	Production/Staging	1,129,900 gsf	0.05 gpd/sf	56,495
		Office	572,050 gsf	0.12 gpd/sf	68,646
11	Village at Playa Vista Phase II South of Jefferson Blvd./Westlawn Ave.	Condominiums	2,600 du	190 gpd/du	494,000
		Office	175,000 gsf	0.12 gpd/sf	21,000
		Retail	150,000 gsf	0.05 gpd/sf	7,500
		Community Serving	40,000 gsf	0.025 gpd/sf	1,000

**Table IV.L.1-5 (Continued)
Cumulative Water Demand**

No.	Project	Land Use	Size	Generation Factor ^{a,b}	Total Water Demand (gpd)
12	Venice Place 1027 S. Abbot Kinney Blvd.	Hotel	92 rm	120 gpd/rm	11,040
		Retail	3,000 gsf	0.025 gpd/sf	75
		Restaurant	2,072 gsf	30 gpd/seat	2,072
13	Inclave Mixed-Use Project 4065–71 Glencoe Ave.	Creative Office	35,206 gsf	0.12 gpd/sf	4,225
		Specialty Retail	1,500 gsf	0.025 gpd/sf	38
		Apartments	49 du	190 gpd/du	9,310
14	DIR-2016-54-DB 12575 W. Venice Blvd.	Apartments	52 du	190 gpd/du	9,880
15	DIR-2016-304-DB-SPR 12444 W. Venice Blvd.	Apartments	77 du	190 gpd/du	14,630
		Retail	2,100 gsf	0.025 gpd/sf	53
16	Expansion of Charter School 4471 Inglewood Blvd.	School	800 stu	9 gpd/stu	7,200
17	Warehouse to Office 4721 S. Alla Rd.	Office	118,352 gsf	0.12 gpd/sf	14,202
18	Stella Phase 2 13488 W. Maxella Ave.	Apartments	65 du	190 gpd/du	12,350
19	Charter School 12870 W. Panama St.	School	532 stu	9 gpd/stu	4,788
20	DIR-2016-3999-DB 11830 W. Courtleigh Dr.	Apartments	29 du	190 gpd/du	5,510
Culver City					
1	Costco Expansion 13463 Washington Blvd.	Discount Club	31,023 gsf	0.025 gpd/sf	776
		Fueling Station	2 pumps		N/A
2	Washington/Tivoli Mixed-Use Project 13112–13114 Washington Blvd.	Retail/Restaurant	1,536 gsf	30 gpd/seat	1,536
		Office	3,702 gsf	0.12 gpd/sf	444
		Residential	2 du	190 gpd/du	380
3	Baldwin Site 12803 Washington Blvd.	Office	31,000 sf	0.12 gpd/sf	3,720
		Retail	6,000 gsf	0.025 gpd/sf	150

**Table IV.L.1-5 (Continued)
Cumulative Water Demand**

No.	Project	Land Use	Size	Generation Factor ^{a,b}	Total Water Demand (gpd)
4	Kayvon Mixed-Use 12712–12718 Washington Blvd.	Residential	5 du	190 gpd/du	950
		Commercial/Office	968 gsf	0.12 gpd/sf	116
5	Market Hall—Washington/Centinela 12403 Washington Blvd.	Market Hall	60,000 gsf	0.025 gpd/sf	1,500
6	Grandview Apartments 4025 Grand View Blvd.	Apartments	36 du	190 gpd/du	6,840
7	Townhome Development 4118 Wade St.	Townhome	1 du	190 gpd/du	190
8	Pennylane Mixed-Use Washington/Inglewood 11924 Washington Blvd.	Restaurant	3,750 gsf	30 gpd/seat	3,750
		Specialty Retail	11,250 gsf	0.025 gpd/sf	281
		Apartments	98 du	190 gpd/du	18,620
9	New Two-Story Office Building 12038 Washington Blvd	Office	2,685 gsf	0.12 gpd/sf	322
10	Mixed-Use with Density Bonus 11281 Washington Pl.	Residential	14 du	190 gpd/du	2,660
		Retail	4,897 gsf	0.025 gpd/sf	122
11	Globe Housing Project 4044–4068 Globe Ave	Apartments	10 du	190 gpd/du	1,900
12	Washington Place Condominium 12464 Washington Pl.	Condominium	2 du	190 gpd/du	380
13	New Condominium 4234 Sawtelle Blvd.	Condominium	2 du	190 gpd/du	380
14	3906–3910 Sawtelle Boulevard 3906–3910 Sawtelle Blvd.	Condominium	1 du	190 gpd/du	190
L.A. County					
1	Courtyard by Marriott and Residence Inn Southeast Corner of Via Marina and Tahiti Way	Hotel	288 rm	120 gpd/rm	34,560
		Park	1.46 ac		N/A
2	Neptune Marina Via Marina and Marquesas Way	Apartments	390 du	190 gpd/du	74,100

**Table IV.L.1-5 (Continued)
Cumulative Water Demand**

No.	Project	Land Use	Size	Generation Factor ^{a,b}	Total Water Demand (gpd)
3	AMLI MDR 4242 Via Marina	Apartments	297 du	190 gpd/du	56,430
		Commercial	3,600 gsf	0.05 gpd/sf	180
4	Pier 44 4625 & 4635 Admiralty Way	Specialty Grocery	13,625 gsf	0.025 gpd/sf	341
		Retail	41,680 gsf	0.025 gpd/sf	1,042
		Restaurant	9,978 gsf	30 gpd/seat	9,978
		Office	2,645 gsf	0.12 gpd/sf	317
		Marina	141 berths		N/A
5	Boat Central 13843 Fiji Way	Dry Stack Boat Storage	375 spaces		N/A
		Boatwright Facility	5,300 gsf		N/A
Related Total					1,150,194
Project Total					71,837
Related + Project Total					1,222,031
<p>^a Cumulative wastewater generation was calculated using LASAN's sewage generation factors. Uses not listed are estimated by the closest type of use available.</p> <p>^b Conservatively assumes rate for 3-bedroom units for all dwelling units. In addition, number of seats for restaurant uses based on LADWP standard of 1 seat per 30 square feet.</p> <p>Source: Eyestone Environmental, 2017.</p>					

conservation program. To increase recycled water use, LADWP is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge. Furthermore, LADWP will continue to update its Urban Water Management Plan every five years to ensure that water supply continues to be available.

Based on the related project list and projections provided in adopted plans (e.g., MWD's 2015 Urban Water Management Plan, LADWP's 2015 Urban Water Management Plan, and the Sustainable City pLAn), it is anticipated that LADWP would be able to meet the water demands of the Project and future growth through 2023 and beyond. Specifically, the LADWP 2015 Urban Water Management Plan forecasts adequate water supplies to meet all projected water demands in the City through the year 2040. **Therefore, sufficient water supplies would be available to serve the Project and related projects from existing entitlements and resources, and cumulative impacts with respect to water supply would be less than significant.**

e. Mitigation Measures

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

f. Level of Significance After Mitigation

Project-level and cumulative impacts related to water supply and infrastructure would be less than significant without mitigation.