

# M. UTILITIES

## M.1. WATER

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### 1. INTRODUCTION

This section provides information describing existing and projected water supplies and related infrastructure. The section provides an analysis of water supply and distribution and addresses whether there would be adequate water supply and infrastructure available to serve the project. The analysis is based on information from the Long Beach Water Department (LBWD), the Long Beach Water Department 2005 Urban Water Management Plan (UWMP), and the Water Availability Assessment (WAA) prepared by the LBWD for the proposed project in May 2010. The UWMP and the WAA are included in Appendix L of this EIR.

### 2. ENVIRONMENTAL SETTING

#### a. Regulatory Environment

##### (1) State Level

###### (a) California Urban Water Management Planning Act

The California Urban Water Management Planning Act (California Water Code [CWC] Division 6, Part 2.6, Sections 10610-10656) addresses several State policies regarding water conservation and the 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, dry, and multiple-dry years. Specifically, municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet per year (AFY) of water must adopt a UWMP.

Since 2005, several amendments have been added to the California Urban Water Management Planning Act. Some of the amendments provided for reporting on lower income and affordable household water projections, eligibility for state water management grants or loans, and reporting on the feasibility of serving recycled water demands. The following is a summary of the significant changes in the California Urban Water Management Planning Act that have occurred from 2005 to 2010:

- Clarifies that every urban water supplier preparing a plan must give at least 60 days advance notice to any city or county prior to the public hearing on the UWMP within which the supplier provides water supplies to allow opportunity for consultation on the proposed plan (Water Code § 10621(b)).
- Requires plan by retail water suppliers to include water use projections for single-family and multi-family residential housing needed for lower income and affordable households to assist with compliance with the existing requirement under Section 65589.7 of the Government Code that suppliers grant a priority for the provision of service to housing units affordable to lower income households (Water Code § 10631.1).

- Conditions eligibility for a water management grant or loan made to an urban water supplier and awarded or administered by the California Department of Water Resources (DWR), the State Water Resources Control Board, or the California Bay-Delta Authority or its successor agency on the implementation of water demand management measures, including consideration of the extent of compliance with the conservation measures described in the California Urban Water Conservation Council's Memorandum of Understanding Regarding Urban Water Conservation in California (MOU) (Water Code § 10631.5).
- Exempts projects funded by the American Recovery and Reinvestment Act of 2009 from the conditions placed on state funding for water management to urban water suppliers (Water Code § 10631.5(a)(2)).
- Requires DWR, in consultation with the State Water Resources Control Board and the California Bay-Delta Authority or its successor agency, to develop eligibility requirements to implement the foregoing grant and loan conditions (Water Code § 10631.5(b)).
- Repeals existing grant funding conditions of state water management grants or loans on July 1, 2016 if the UWMP is not extended or altered prior to this date (Water Code § 10631.5(f)).
- Deems water suppliers that are members of the California Urban Water Conservation Council and comply with the MOU, as it may be amended, to be in compliance with the requirement to describe the supplier's water demand management measures in its urban water management plan (Water Code § 10631(j)).
- Required DWR, in consultation with the California Urban Water Conservation Council, to convene a technical panel, no later than January 1, 2009, to provide information and recommendations to the Department and the Legislature on new demand management measures, technologies, and approaches. The panel and DWR were to report to the Legislature on their findings no later than January 1, 2010 and each five years thereafter (Water Code § 10631.7).
- Clarifies that "indirect potable reuse" of recycled water should be described and quantified in the plan, including a determination with regard to the technical and economic feasibility of serving those uses (Water Code § 10633(d)). Requires DWR to recognize exemplary efforts by water suppliers by obligating DWR to identify and report to the technical panel, described above, any "exemplary elements" of individual water suppliers' plans, meaning any water demand management measures adopted and implemented by specific urban water suppliers that achieve water savings significantly above the levels required to meet the conditions to state grant or loan funding (Water Code § 10644(c)).

As the proposed project is located within the City of Long Beach (City), and therefore would be served by the LBWD, which has an adopted UWMP, Water Code Sections 10610-10656 are applicable to the project.

#### **(b) Senate Bill 610 and Senate Bill 221**

State legislation addressing water supply, Senate Bill (SB) 610 and SB 221, became effective January 1, 2002. SB 610, codified in CWC § 10910 et seq., describes requirements for both water supply assessments (WSAs) and UWMPs applicable to the California Environmental Quality Act (CEQA) process. SB 610 requires that for projects subject to CEQA, which meet specific size criteria, the water supplier must prepare a WSA that determines whether the projected water demand associated with a proposed project is included as part of the most recently adopted UWMP. Specifically, a WSA identifies 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 evaluates water supplies over a 20-year period and considers normal, single-dry, and multiple-dry year conditions. In accordance with SB 610 and Section 10912 of the CWC, projects subject to CEQA requiring submittal of a WSA include the following:

- Residential developments of more than 500 dwelling units;
- Shopping centers or business establishments 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 plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- Mixed-use projects that include one or more of the projects specified in this subdivision; or
- Projects 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.

In addition, under SB 610, a water supplier responsible for the preparation and periodic updating of an UWMP must describe the water supply projects and programs that may be undertaken to meet the total project water use of the service area. If groundwater is identified as a source of water available to the supplier, the following additional information must be included in the UWMP: (1) a groundwater management plan; (2) a description of the groundwater basin(s) to be used and the water use adjudication rights, if any; (3) a description and analysis of groundwater use in the past five years; and (4) a discussion of the sufficiency of the groundwater that is projected to be pumped by the supplier. As the proposed project would create a demand for water greater than that of a 500-dwelling-unit residential development, the project is subject to the requirements of SB 610. Accordingly, a Water Availability Assessment (equivalent to a WSA in terms of required content pursuant to SB 610) has been prepared for the proposed project, as discussed below, and is included in Appendix L to this EIR.

SB 221 also addresses water supply in the land use planning process and focuses on new residential subdivisions in non-urban areas. SB 221 requires that written verification from the water service provider be submitted indicating sufficient water supply is available to serve a proposed subdivision, or the local agency shall make a specified finding that sufficient water supplies are or will be available prior to completion of a project. SB 221 applies to residential subdivisions of 500 units or more. In addition, Government Code Section 66473.7(i) exempts the following projects:

*“...any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses; or where the immediate contiguous properties surrounding*

*the residential project site are, or previously have been, developed for urban uses; or housing projects that are exclusively for very low and low-income households.”*

As such, although the proposed project would include a residential component, the project is located on a previously developed site surrounded by urban development and is, therefore, exempt from the requirements of SB 221.

### **(c) California Code of Regulations**

Title 20, Sections 1605.1(h) and 1605.1(i) of the California Code of Regulations (CCR) establish efficiency standards (i.e., maximum flow rates) for all new federally-regulated plumbing fittings and fixtures, including showerheads and lavatory faucets. The maximum flow rate for showerheads and lavatory faucets are 2.5 gallons per minute (gpm) at 80 pounds per square inch (psi) and 2.2 gpm at 60 psi, respectively. In addition, Section 1605.3(h) establishes State efficiency standards for non-federally regulated plumbing fittings, including commercial pre-rinse spray valves.

The proposed development would be required to meet water efficiency standards established by Title 20 of the CCR, and therefore, these requirements are applicable to the proposed project.

### **(d) Global Warming and Climate Change**

In response to growing concerns regarding greenhouse gas emissions and global climate change, Governor Arnold Schwarzenegger and the California Legislature have made reducing greenhouse gas emissions a key focus of their agendas. Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), also known as the California Global Warming Solutions Act of 2006 (AB 32), mandates that California reduce its greenhouse gas emissions to 1990 levels by 2020. In 2004, the state produced almost 500 million metric tons of carbon dioxide (CO<sub>2</sub>). Reducing California's greenhouse gas footprint to meet AB 32 goals will require approximately a 29-percent cut in emissions below the levels the State is currently projected to produce in 2020. To this end, global warming and climate change now must be considered in assessing water supply in California. Potential impacts of climate change on California's water resources include changes in water and air temperatures, changes in precipitation patterns, and changes in sea levels that could increase pressure on the Sacramento-San Joaquin River Delta (Delta) levees. The DWR has concluded that climate change may have a significant effect on California's future water resources and demand. The DWR also examined the potential impacts of selected climate change scenarios on operations of the State Water Project (SWP) and Central Valley Project (CVP), Delta water quality, flood management and evapotranspiration. Potential issues include a reduction of Sierra snowpack and seasonal water storage; increased rain and less snow impacting supply reliability and hydropower generation; increased variable precipitation and extreme weather events; and rising sea levels.

While climate change is expected to continue, the magnitude and nature of future changes are uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. Preliminary modeling conducted by DWR and others indicates average yearly SWP deliveries in 2050 would be reduced by 10.2 percent and that runoff reductions range from a decrease of 11 percent in 2010 to a decrease of 45 percent by approximately 2050. In addition, a survey of recent research on the effects of climate change on the Colorado River by the Potential Impacts of Climate Change on Colorado River reveals that runoff reductions range from a decrease of 11 percent in 2010 to a decrease of 45 percent by approximately 2050.

In light of these conclusions, both governmental agencies and non-governmental organizations recommend that water decision-makers operate existing water systems to allow for increased flexibility. Other recommendations include incorporating climate change research into infrastructure design, conjunctively managing surface water and groundwater supplies, and integrating water and land use practices. In this regard, policymakers and water suppliers in California are currently addressing climate change impacts and developing new ways to cope with the types of variability that are outside the design range of existing infrastructure. The Governor's October 2008 Delta Vision Strategic Plan supports the development of additional storage to allow greater system operational flexibility that will benefit water supplies and adapt to a changing climate.

The Metropolitan Water District (MWD) has adopted climate change policy principles that relate to water resources. Most recently, MWD approved criteria to further explain its position on conveyance options for improving the Delta ecosystem, which include addressing projected sea level rise and change in inflows due to climate change. MWD's criteria provide that, "whatever option is chosen, it should provide water supply reliability, improve export water quality, allow flexible pumping operations in a dynamic fishery environment, reduce seismic risks, and reduce climate change risks." MWD has demonstrated a commitment to addressing climate change by evaluating the vulnerability of its water systems to global warming impacts and has developed appropriate response strategies and management tools that account for the impacts of climate change on future water supplies. MWD's 2010 Regional UWMP (RUWMP) incorporates three basic elements to promote adaptability and flexibility, important in addressing impacts of climate change: (1) conservation, (2) groundwater recharge, and (3) water recycling.

As greenhouse gas-reducing measures and associated water conservation features will be required to be implemented for the proposed project, AB 32, Delta Vision Strategic Plan, and RUWMP are applicable to the proposed project.

#### **(e) Efficiency Standards – California Code of Regulations and Health and Safety Code**

Title 24 of the California Code of Regulations (CCR) contains the California Building Standards, including the California Plumbing Code (Part 5) which promotes water conservation. Title 20 addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, many State laws require water-efficient plumbing fixtures in structures and are listed below:

- Title 24, CCR, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Title 20, CCR, Section 1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets and tub spout diverters.
- Title 20, CCR, Section 1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- California Health and Safety Code, Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.
- California Health and Safety Code, Section 116785 prohibits installation of residential water softening or conditioning appliances unless certain conditions are satisfied and includes the

requirement that water conservation devices on fixtures using softened or conditioned water be installed.

The proposed development would be required to implement water conservation features pursuant to Title 20 and Title 24, and therefore, these regulations are applicable to the project.

## **(2) Regional Level**

Based on the water supply planning requirements imposed on its member agencies and ultimate customers, such as the requirements to adopt urban water management plans, water supply assessments and written verifications, MWD has adopted a series of official reports on the state of its water supplies. MWD has consistently stated that its water supplies are fully reliable to meet the demands of its customers, including LBWD, in all hydrologic conditions through at least 2035. In response to recent developments in the Delta, MWD is also engaged in identifying solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies. In the near-term, MWD will continue to rely on the plans and policies outlined in its Regional UWMP, Water Surplus and Drought Management Plan, Water Supply Allocation Plan, and Integrated Resources Plan to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. These plans are described in detail below.

### **(a) 2010 Regional Urban Water Management Plan (RUWMP)**

Pursuant to the Urban Water Management Planning Act, MWD prepared the 2010 RUWMP, which addresses the future of MWD's water supplies and demand through the year 2035. Campaigns for voluntary conservation, curtailment of replenishment water and agricultural water delivery are some of the actions outlined in the RUWMP to meet future water demand. If necessary, reduction in municipal and industrial water use and mandatory water allocation could be implemented. The RUWMP incorporates much of the actions and policies provided in MWD's Water Surplus and Drought Management Plan and Integrated Resources Plan. Because the City 2005 UWMP relies in part on supplies from MWD, the RUWMP is applicable to the proposed project.

### **(c) Water Surplus and Drought Management Plan (WSDM)**

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 WSDM. That plan provides policy guidance to manage MWD's supplies and achieve the goals laid out in the agency's Integrated Resources Plan. The WSDM also "identifies the expected sequence of resource management actions that [MWD] will execute during surpluses and shortages to minimize the probability of severe shortages and eliminate the possibility of extreme shortages and shortages allocations." MWD's 10-year WSDM categorizes its ability to deliver water to its customers by distinguishing between surpluses, shortages, severe shortages and extreme shortages. The WSDM's integration of management actions taken during times of surplus and shortages reflects MWD's belief that these actions are interrelated.

For example, MWD's regional storage facilities, such as Lake Skinner, Lake Mathews and Diamond Valley Lake, along with storage capacity available to MWD in Castaic Lake and Lake Perris, provide MWD with flexibility in managing its supplies. MWD's storage supplies and existing management practices allow MWD to mitigate shortages without having to impact retail municipal and industrial demands, except in severe or

extreme shortages. MWD's 2010 RUWMP shows its expected ability to meet demands in single dry years by water supply source. For example, in 2015 MWD expects to have 1,048,000 AF in potential reserve and replenishment supplies, primarily through storage and transfer programs. In 2035, MWD estimates that it will have 1,407,000 AF in potential reserve and replenishment supplies. Anytime MWD withdraws from storage to meet demands, it is considered to be in a shortage stage. MWD has spent decades building up its storage reserves and groundwater management programs in order to prepare for a seven stages of shortage conditions. "Each [shortage] stage is associated with specific resource management actions designed to (1) avoid an Extreme Shortage to the maximum extent possible and (2) minimize adverse impacts to retail customers if an Extreme Shortage occurs." MWD notes that the "overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage."

In an actual shortage, MWD would: (1) draw on storage out of reservoirs; (2) draw on out-of-region storage in the Semitropic and Arvin-Edison groundwater banks; (3) reduce or suspend long-term seasonal and groundwater replenishment deliveries; (4) draw on groundwater storage programs; (5) draw on SWP terminal reservoir storage; (6) reduce Interruptible Agricultural Water Program (IAWP) deliveries; (7) call on water transfer options contracts; (8) purchase additional water; and (8) reduce imported supplies to its members agencies by an allocation method. MWD clarifies that this list is not in any particular order, "although it is clear that the last action [taken] will be the curtailment of firm deliveries to the member agencies."

Additionally, the MWD announced a strategic approach in 2008 regarding its WSDM Plan. MWD's major strategies are as follows:

- Continue conservation campaign;
- Maximize recovery of water from Central Valley storage and banking programs;
- Purchase additional supplies to augment existing supplies; and
- Develop and implement a shortage allocation plan (discussed below).

The WSDM is a key component of MWD's regional water supply reliability approach, which is the basis for a substantial portion of the water supply provided to the City. As such, the WSDM is applicable to the proposed project.

#### **(d) Water Supply Allocation Plan**

While the WSDM included a set of general actions and considerations for MWD staff to address during shortage conditions, it did not include a water supply allocation plan or implementation approach. Therefore, MWD adopted a water supply plan called the Water Supply Allocation Plan (WSAP) in February 2008. This plan includes a formula for determining reductions of water deliveries to member agencies during shortage conditions (i.e., drought conditions or unforeseen cuts in water supplies). The formula was derived for three scenarios of regional water shortage levels (10, 20, and 40 percent shortage) and is based on a methodology that cuts water allocations all across the board (i.e., to all member agencies) with adjustments for the member agency's dependency on MWD's water supplies and the agency's water conservation savings from programs and devices. The formula also calls for IAWP water reductions of between 30 to 100 percent, depending on the severity of the shortage conditions. The allocation period

covers 12 months, from July of a given year through the following June. Member agency allocations would be enforced through a penalty rate structure.

Relative to a member agency's preferential water rights, the WSAP provides for a discounted penalty rate schedule for member agencies exceeding their allocations under the plan's formula but not exceeding their preferential rights. The WSAP would be reviewed and revised in three years following the February 2008 adoption, as well as 12 months after a shortage.

The WSAP is another key component of MWD's regional water supply reliability approach, which is the basis for a substantial portion of the water supply provided to the City. As such, the WSAP is applicable to the proposed project.

### **(e) Integrated Resources Plan**

MWD first adopted its Integrated Resources Plan (IRP) in 1996. The IRP is updated every five years, and was most recently updated in October 2010. The original IRP in 1996 came in the wake of a dry cycle that created the first shortage conditions in Metropolitan history. The 1996 IRP emphasized the construction and creation of a network of water storage facilities, both below and above ground, while investing in a mix of local and imported supply options. An update in 2004 further emphasized conservation and local resource development options and targets through 2025 and included the addition of a 10 percent "planning buffer." This buffer underlined the necessity for a back-up plan to deal with scenarios that eluded worst-case modeling. However, neither version of the previous IRPs anticipated today's dramatic changes. The Colorado River has experienced below-average precipitation conditions for most of the past decade, and the SWP has faced historic regulatory cutbacks significantly reducing its supplies that pass through the Sacramento-San Joaquin Delta in Northern California. The 2010 IRP manages these challenges.

The 2010 IRP Update documents an approach and strategy that is intended to navigate MWD through uncertainty and vulnerability in a new era of water resource management in Southern California. As noted above, in its 1996 IRP, MWD established a water resource portfolio with real targets for each of the resources within the preferred mix. In the 2004 IRP Update, as uncertainties continued to grow, MWD established a planning buffer concept to its resource mix to address uncertainty in water resource development. Now, under the strategy of the 2010 IRP Update, MWD will continue to develop programs to meet its reliability within its traditional core supplies, collaborate with member agencies to develop a buffer to address uncertainty, and pursue foundational actions to address other future supply vulnerabilities and uncertainties. Given these uncertainties that affect water supplies and demands, there is considerable risk of supply shortage. There is likewise the risk of unnecessary investments if shortages do not materialize and replacement supplies have already been developed. The 2010 IRP strikes the balance through a three-component approach to the future:

**Component 1 – Core Resources Strategy:** The Core Resources Strategy represents baseline efforts to manage water supply and demand conditions. This strategy is based on what information is currently known, including detailed planning assumptions about future demographic scenarios, water supply yields, and a range of observed historical weather patterns. Under this strategy, MWD and its member agencies will advance water use efficiency through conservation and recycled water, along with further local supply development such as groundwater recovery and seawater desalination. MWD will also stabilize traditional imported supplies from the Colorado River and Northern California.

**Component 2 – Uncertainty Buffer:** The new IRP sets goals for a range of potential “buffer” supplies to protect the region from possible shortages in a cost-effective manner, starting with a further expansion of conservation and water use efficiency on a region-wide basis. Future water conditions will likely fall outside of the projected conditions assumed by the Core Resources Strategy due to challenges in the Delta, Colorado River, regulatory restrictions, economics, and climate change. The buffer enables the region to adapt to future circumstances and foreseeable challenges. Importantly, this strategy emphasizes regional collaboration to create greater opportunities to meet future demands.

**Component 3 – Foundational Actions:** Foundational Actions guide the region in determining alternative supply options for long-range planning. If future changed conditions — either with the climate or availability of resources — should prove greater than what is offset by MWD’s Core Resources Strategy and Uncertainty Buffer, alternatives would be called for implementation. These actions, including feasibility studies, technological research, and regulatory review, lay the foundation for potential alternative resource development.

In future dry cycles, Southern California’s largest “supply” will be the water that it no longer uses. The lowering of demand through numerous conservation and water use efficiency programs will provide a greater contribution to water reliability than the Colorado River, SPW or any other single supply. In addition, every acre-foot of conserved water is an acre-foot that can be saved in storage and used to meet future water needs.

The 2010 IRP will build on the success of existing recycled water and conservation programs, such as plumbing code revisions and direct incentives. The focus will be on California’s new requirement to lower residential per-capita water use 20 percent by the year 2020, known at the *20x2020 Water Conservation Plan*.<sup>1</sup> Enacted by the State Legislature and signed into law by the Governor as part of a historic package of water reforms in November 2009, the “20x2020” plan gives local communities flexibility in meeting this target while accounting for previous efforts in conservation and recycling. MWD will coordinate closely with its member agencies to achieve these targets both at a retail agency level in compliance with legislative requirements, and as a region in achieving a true 20-percent reduction in per-capita water use.

As is the case for the WSDM and WSAP, the IRP is another key component of MWD’s regional water supply reliability approach, which is the basis for a substantial portion of the water supply provided to the City. As such, the IRP is applicable to the proposed project.

### **(3) Local Level**

#### **(a) 2005 Urban Water Management Plan**

In accordance with State legislation, the LBWD updated the UWMP in December 2005 and revised it in May 2007. The LBWD’s UWMP, as required by the Urban Water Management Planning Act, assist urban water

<sup>1</sup> *The 20x2020 Water Conservation Plan sets forth a statewide road map to maximize the state’s urban water efficiency and conservation opportunities between 2009 and 2020, and beyond. It aims to set in motion a range of activities designed to achieve the 20 percent per capita reduction in urban water demand by 2020. These activities include improving an understanding of the variation in water use across California, promoting legislative initiatives that incentivize water agencies to promote water conservation, and creating evaluation and enforcement mechanisms to assure regional and statewide goals are met. Source: California Department of Water Resources, et. al., 20x2020 Water Conservation Plan. February 2010. Page ix.*

suppliers with long-term water resources planning and ensures adequate water supplies for existing and future demands. The LBWD's UWMP contains an analysis of past, current, and projected future water supply and demand as they relate to population density, types of water use, water quality, climate, water source availability and reliability, alternative water sources, and potential water shortages. A contingency plan was also developed to increase water supply during water supply interruptions or a drought. Alternative water sources would help provide additional water supplies and water conservation measures would help reduce water demands. The UWMP is required to be updated every five years in order to manage short-term and long-term water demand. As specified by the Urban Water Management Planning Act, failure to provide an UWMP would restrict the use of water supplies during drought seasons.

LBWD's UWMP provides water demand projections in five-year increments through 2030, which are based on demographic data from the Southern California Association of Governments' (SCAG) 2004 Regional Transportation Plan (RTP), as well as billing data for each major customer class, weather, and conservation. SCAG's growth projections for the City take into consideration the buildout capacity of the General Plan and whether growth is occurring at the anticipated rate.

As LBWD is the water purveyor serving the project site, the 2005 UWMP is applicable to the proposed project.

#### **(b) City of Long Beach Municipal Code**

The City has adopted several ordinances in an effort to reduce water consumption. Specifically, Chapter 2.38 of the Long Beach Municipal Code (LBMC) establishes the Sustainable City Commission, whose purpose is,

*"...to make advisory policy recommendations to the city council on issues relating to the environment, a sustainable city plan, efforts or programs to address environmental issues such as air quality, water quality, resource conservation relating to the protection and integrity of the natural environment, programs to increase education and awareness of the environment, to serve as a forum for community discussion of these environmental issues, and to encourage input and participation from all sectors of the community on issues of sustainability and the environment."*

The commission is made up of eleven members, representing each of the nine councilmanic districts and two members appointed at-large. The commissioners are appointed by the Mayor with approval by the City Council, in which they serve four year terms, but not to exceed two terms. Chapter 3.90 of the LBMC establishes a surcharge to fund the continuous upgrade, improvement, and maintenance of technology for development projects and services. Specifically, fees are imposed regarding potable water, reclaimed water, sewer service, and the emergency water conservation plan adopted by the Long Beach Board of Water Commissioners.

The project site is located within the City, and therefore, the proposed project is subject to the water conservation requirements of the LBMC.

### (c) Long Beach Emergency Water Conservation Plan

In June 2007, the Long Beach Board of Water Commissioners adopted Resolution No. WD-1232, which amended and restated the water conservation and water supply shortage plan (Water Conservation Plan). The Water Conservation Plan's objectives include the following:

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

The Water Conservation Plan attempts to fulfill the above-listed objectives by limiting water usage when a Stage 1 Water Supply Shortage, Stage 2 Water Supply Shortage, or Stage 3 Water Supply Shortage occurs. During a Stage 1 Water Supply Shortage, the following water usages are prohibited: (1) Irrigating landscape with potable water any day other than Monday or Thursday, beginning on the first day of October through the end of the last day of the following March, except for very short periods of time for the expressed purpose of adjusting or repairing the irrigation system; (2) Filling residential swimming pools and spas with potable water; (3) Other prohibited uses as determined by the Board, after notice to customers. In addition, during a Stage 1 Water Supply Shortage, the Water Commission is permitted to increase water rates by up to 10 percent. When a Stage 2 Water Supply Shortage occurs, the following water usages are prohibited: (1) Irrigating landscape with potable water any day other Monday or Thursday, except for very short periods of time for the expressed purpose of adjusting or repairing the irrigation system; (2) Filling residential swimming pools and spas with potable water; (3) Other prohibited uses as determined by the Board, after notice to customers. During a Stage 2 Water Supply Shortage, the Water Commission is permitted to increase water rates by up to 15 percent. Finally, during a Stage 3 Water Supply Shortage, the Water Commission has the sole discretion to impose additional restrictions or prohibitions on the use of water and make additional adjustments to the water rates as deemed necessary. Under the Water Conservation Plan, if customers do not comply with the requirements, the Water Commission is allowed to assess Water Usage Charges based on the amount of failure notices and at what stage the water supply shortage is at the time.

The project site is located within the City of Long Beach, and therefore, the proposed project is subject to the requirements of the Water Conservation Plan.

## b. Physical Environment

### (1) Water Supply

Water supply projections are shown in **Table IV.M.1-1, Current and Planned Water Supplies**. As illustrated in Table IV.M.1-1, the major sources are water purchased wholesale from the MWD, groundwater pumped and treated by the LBWD, recycled water and, possibly by 2015, desalinated seawater. The following discusses the reliability of these supplies and their vulnerability to seasonal or climatic shortage. The LBWD is researching the technological, environmental, and financial feasibility of seawater desalination as a source of

Table IV.M.1-1

Current and Planned Water Supplies  
(AFY)

Source	2005 <sup>a</sup>	2010	2015	2020	2025	2030
<b>M&amp;I</b>						
Potable Water						
Wholesale Purchases <sup>b</sup>	43,939	35,658	30,758	31,912	30,488	29,516
Groundwater <sup>c</sup>	25,955	32,684	32,684	32,684	32,684	32,684
Seawater Desalination	--	5,000	10,000	10,000	10,000	10,000
<i>Total Potable Water</i>	69,894	73,342	73,442	74,596	73,172	72,200
Recycled Water	5,210	6,458	8,058	9,604	12,428	14,400
<i>Total M&amp;I</i>	75,104	79,800	81,500	84,200	85,600	86,600
<b>Seawater Barrier</b>						
Potable Water						
Wholesale Purchases <sup>b</sup>	4,672	2,100	2,100			
Recycled Water	525	2,100	2,100	4,200	4,200	4,200
<i>Total Seawater Barrier</i>	5,197	4,200	4,200	4,200	4,200	4,200
<b>Total M&amp;I and Seawater Barrier</b>	<b>80,301</b>	<b>84,000</b>	<b>85,700</b>	<b>88,400</b>	<b>89,800</b>	<b>90,800</b>

<sup>a</sup> Calendar year estimate based on fiscal year actual.

<sup>b</sup> Purchased from MWDSC.

<sup>c</sup> LBWD Central Basin Aquifer rights.

Source: Long Beach Water Department, 2005 Urban Water Management Plan, Table 4-current and Planned Water Supplies-AF/Y, revised 2007.

potable water. As of February 2011, research at the City's prototype desalination facility by LBWD scientists and water quality engineers is ongoing, though production of desalinated water supplies has not begun. If determined feasible by this continuing research, this would be a very reliable supply of water impervious to fluctuations in weather and climate. This supply would be used in-lieu of MWD imported water.

### (a) Imported Water

Metropolitan Supply Reliability: In its 2010 RUWMP (September 2010), MWD presents its supply availability at the regional level, rather than at the member agency level. With that, LBWD is not able to quantify the availability of imported supply from MWD specifically for LBWD. However, in that draft plan, MWD was able to show that it can maintain 100 percent reliability in meeting direct consumptive demand under the conditions that represent normal, single driest, and multi-dry years through 2035. Inferring from the supply reliability findings stated by MWD, LBWD concludes that MWD is capable of supplying imported water to meet demand projected by LBWD under various hydrologic conditions. Additionally, the LBWD enjoys preferential rights to an amount of MWD's firm supplies sufficient to meet its need for MWD water.

### (b) Groundwater

LBWD has the right to pump 32,684 AFY of groundwater from the Central Basin and 0.7 AFY from the West Coast Basin. LBWD has no wells in the West Coast Basin and therefore, does not pump those water rights. However, the LBWD may sometimes use those rights for the in-lieu replenishment of that basin.

The Central Basin is a groundwater aquifer under 277 square miles in mostly urbanized southern Los Angeles County. The basin was seriously over-drafted by the mid-1900's. The basin was adjudicated in Superior Court in the early 1960's, strictly limiting extractions to apportioned rights, and apportioning the pumping rights to certain parties; the judgment, therefore, provides the framework for groundwater management of this basin.

The annual pumping rights allocated in the judgment exceeds the natural yield of the basin. Therefore, in addition to restricting water production, the judgment charges the Water Replenishment District of Southern California (WRDSC) with the replenishment of the basin. Parties extracting water from the basin pay an assessment to the WRDSC for every AF extracted. This assessment is used by the WRDSC to purchase replenishment water and to fund other programs for the replenishment and protection of the basin.

**Table IV.M.1-2, Amount of Groundwater Pumped**, shows the annual production from the Central Basin and West Coast Basin for the years 2000 through 2004. As indicated in Table IV.M.1-2, the groundwater production was less than the adjudicated rights of 32,684.7 AFY in each of these years. During this period of time, LBWD worked with the MWD and the WRDSC to replenish the groundwater basin through in-lieu means. This was accomplished by the MDWSC selling surplus wet-year water to the LBWD who, in turn, retired its right to pump its full complement of water rights.

**Table IV.M.1-2**

**Amount of Groundwater Pumped<sup>a</sup>  
(AFY)**

<b>Basin</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Central Basin	24,710	25,342	24,789	27,751	21,173
<i>% of Pumping Rights<sup>b</sup></i>	75.6%	77.5%	75.8%	84.9%	64.8%
West Coast Basin	--	--	--	--	--
<i>% of Pumping Rights<sup>b</sup></i>	0%	0%	0%	0%	0%
<b>% of Remaining Pumping Rights</b>	<b>24.3%</b>	<b>22.5%</b>	<b>24.2%</b>	<b>15.1%</b>	<b>35.2%</b>

<sup>a</sup> From watermaster reports.

<sup>b</sup> Based upon the adjudicated pumping rights of 32,684 AFY for the Central Basin and 0.7 AFY from the West Coast Basin for a total of 32,684.7 AFY.

Source: Long Beach Water Department, 2005 Urban Water Management Plan, Table 6 - Amount of Groundwater Pumped - AF/ Fiscal Year (July-June), revised May 2007.

It is not anticipated that production will change as a result of cones of depression, changes in direction and amount of groundwater flow, movement and levels of contaminants, projected average annual recharge, salinity/total dissolved solid (TDS) levels or for other factors exclusive of the ones noted above. The LBWD has a very long history of successfully operating at this level of production in the Central Basin without developing significant cones of depression or changing the direction and amount of groundwater flow. The portion of the basin used by the LBWD is free of contaminants, in large part because that part of the basin is isolated from surface contamination by several layers of impermeable clay. Production is not anticipated to change as a result of average annual recharge because the recharge is managed by the WRDSC for the

expressed purpose of maintaining a proper level of recharge and the revenue required to fund this recharge operation will be available because the revenue is generated from a tax on the extraction of the groundwater. Production is not anticipated to be impacted by increased salinity because the source of salinity, namely the Pacific Ocean, is prevented from entering the groundwater basin by an artificial seawater barrier created by the WRDSC's barrier injection program.

The LBWD groundwater supply is extracted from the Central Basin aquifers. As noted above, extractions from this basin are limited by order of the Superior Court and a mechanism, i.e., the WRDSC, has been in place for the last 40 years to ensure that these limited extractions do not exceed the basin's natural and artificial replenishment. The water stored in the Central and West Coast basin has increased since 1962 by 165,700 AF.

There are several programs to keep the basin replenished, these include the following:

- To the extent possible, San Gabriel River stream flows are used for replenishing the groundwater basin. The quantity of water from this source fluctuates with changes in weather patterns.
- The Long Beach Judgment ensures that actual or replacement flows within and below the San Gabriel River, used for replenishment of the Central Basin, continue to meet historic averages or that replacement water is provided. On a long-term basis this flow is required, by the judgment, to meet fixed minimum benchmarks.
- Reclaimed water is mixed with other waters and allowed to percolate into the groundwater basin. Because this is a reclaimed water supply, it is very reliable, even during fluctuations in weather patterns, including multiple dry years.
- MWD's imported replenishment water is purchased for replenishment in the years MWD has this water available. This source can only be interrupted on a temporary basis by MWD, for a maximum of just two years, according the MWD Board-adopted Water Surplus and Drought Management Plan.

Because sufficient storage is maintained in the Central Basin, because non-MWD sources are available for replenishment, and because extractions from the Central Basin are restricted, groundwater supplies from the aquifer are very reliable, even during multi-year droughts. As a back-up supply in addition to the above, the LBWD also has the right, under the Central Basin judgment, to extract groundwater it has stored in the aquifers, up to 20 percent of its water rights (20 percent of 32,684 AF), and to extract in emergencies up to another 20 percent. Also, LBWD will extract, when called to, the 13,000 AFY of MWD conjunctive use water stored in the Central Basin aquifers.

### **(c) Reclaimed Water**

LBWD receives reclaimed water from the Long Beach Reclamation Plant. This plant is not owned nor operated by the City of Long Beach. However, LBWD has rights to the tertiary water produced by the plant. The plant produces approximately 22,000 AFY of reclaimed water. The LBWD currently uses approximately 6,000 AFY and expects to increase this amount up to approximately 18,600 AFY by 2030. Because the output of the reclamation plant is basically not impacted by weather or climate change, and because the output of the plant exceeds current and expected demand for reclaimed water, this supply is considered very reliable.

## (2) Water Demand

Future water demand projections in five-year increments (from 2005 to 2030) are provided by the UWMP and WAA and are based, in part, on estimated population growth. **Table IV.M.1-3, Past, Current and Projected Water Deliveries**, summarizes the past water demand and future estimated water demand for Long Beach through 2030. According to the LBWD's UWMP, the City's annual water demand is estimated to reach 86,600 AFY by 2030, which is an increase of 11,496 AFY, or 15 percent, from 2005. The 2005 UWMP anticipates adequate water supplies would be available to the service areas under normal, single-dry, and multiple-dry year conditions, as illustrated in **Table IV.M.1-4, Projected Water Supply and Demand for Normal Year, Single Dry-Year, and Multiple Dry-Year**.

**Table IV.M.1-3**

**Past, Current and Projected Water Deliveries<sup>a</sup>  
(AFY)**

<b>Water Use Sector</b>	<b>2000</b>	<b>2005<sup>b</sup></b>	<b>2010<sup>b</sup></b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Single-Family	24,268	25,435	27,026	27,601	28,516	28,990	29,329
Multi-Family	25,351	26,570	28,231	28,832	29,788	30,283	30,637
Commercial	11,595	12,153	12,912	13,187	13,624	13,851	14,013
Industrial	3,428	3,593	3,818	3,899	4,028	4,095	4,143
Government	3,898	4,086	4,341	4,433	4,580	4,656	4,711
Landscape	3,118	3,268	3,472	3,546	3,664	3,725	3,768
<b>Total<sup>c</sup></b>	<b>71,658</b>	<b>75,104</b>	<b>79,800</b>	<b>81,500</b>	<b>84,200</b>	<b>85,600</b>	<b>86,600</b>

<sup>a</sup> Based on normal weather conditions and with projected conservation.

<sup>b</sup> 2005 water use shows basically no increase over 2000 as a result of the historic rainfall in winter of 2004/2005. 2010 shows a larger increase over 2005 because demand in 2005 was suppressed as a result of the heavy rainfall.

<sup>c</sup> Totals may not add up due to rounding.

Source: Long Beach Water Department, 2005 Urban Water Management Plan – Table 12: Past, Current and Projected M&I Water Deliveries, revised 2007.

Current water demand for water consists of commercial and retail uses and irrigation of existing landscaped areas located throughout the project site. Historic water use data from the LBWD for 2009 indicate that the existing hotel and associated land uses and landscaping on the project site currently consume approximately 12,500 gpd or 14 AFY (refer to the Water Availability Assessment in Appendix L of this EIR).

## (3) Water Distribution Infrastructure

The project site is currently served by existing water lines operated and maintained by the LBWD. According to a topographic survey conducted for the project site (including in Appendix L of this EIR), the existing hotel and associated on-site uses are served by a 12-inch diameter pipeline within 2<sup>nd</sup> Street and another 12-inch diameter pipeline within Marina Drive.

Table IV.M.1-4

**Projected Water Supply and Demand for Normal Year, Single Dry-Year, and Multiple Dry-Year  
(AFY)**

<b>Supply/Demand</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
		<i>Normal Year Supply and Demand</i>			
Supply Total	84,000	85,700	88,400	89,800	90,800
Demand Total	84,000	85,700	88,400	89,800	90,800
Difference	--	--	--	--	--
		<i>Single Dry-Year Supply and Demand</i>			
Supply Total	84,000	85,700	88,400	89,800	90,800
Demand Total	84,000	85,700	88,400	89,800	90,800
Difference	--	--	--	--	--
		<i>Multiple Dry-Year Supply and Demand</i>			
Supply Total	84,000	85,700	88,400	89,800	90,800
Demand Total	84,000	85,700	88,400	89,800	90,800
Difference	--	--	--	--	--

Source: Long Beach Water Department, 2005 Urban Water Management Plan.

### 3. ENVIRONMENTAL IMPACTS

#### a. Methodology

Pursuant to SB 610, discussed above, the LBWD performed a Water Availability Assessment (WAA) for the proposed project to determine whether there will be adequate water supplies to serve the proposed uses. The WAA evaluates the net increase in water demand associated with the proposed land uses relative to existing uses on-site and the LBWD's ability to meet the long-term water demands of the project and other customers in its service area. The WAA, discussed below, serves as the basis for the analysis of water supply impacts of the proposed project. In addition, the following analysis of water-related impacts also addresses the proposed project's potential to result in adverse effects associated with the provision of new water infrastructure, including water treatment and distribution facilities.

#### b. Thresholds of Significance

A project may have a significant impact on water infrastructure and water supply if it would exceed the significance thresholds included in Section XVII, Utilities and Service Systems, in Appendix G of the CEQA *Guidelines*. As such, the proposed project would result in a significant impact to water infrastructure and water supply if it would:

- 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
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

### c. Project Design Features

As discussed in Section II, *Project Description*, of this EIR, water conservation for the project would be maximized through the use of water efficient fixtures, as well as compliance with the City's recommended water conservation measures. Specifically, these water conservation measures that the project applicant has committed to implementing include the following:

- Bathroom and kitchen faucet aerators, low flow showerheads, high efficiency clothes washers, toilets, and urinals;
- Energy star dishwashers;
- Water-efficient landscaping that includes native or drought-tolerant plants and trees;
- Reduction of turf in landscapes and lawns and specialized irrigation systems;
- Use of reclaimed water; and
- Use of gray water (to the extent feasible).

Implementation of such features would reduce on-site domestic water consumption by a minimum of 25 percent, which would serve to offset the project's impacts on the City's water supplies.<sup>2</sup> However, the anticipated 25-percent demand reduction is not incorporated into the analysis of project-related water demands presented below, in order to provide a conservative analysis.

### d. Analysis of Project Impacts

#### (1) 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?

As noted previously, the LBWD, as the local water purveyor, would provide domestic water service for the proposed project. The City's current water supply is based on local groundwater, which is treated at the City's groundwater treatment plant, treated imported water from MWD, and tertiary-treated recycled water for non-potable applications such as landscape irrigation. As discussed further below, because the City's groundwater wells operate at maximum "safe yield" capacity (i.e., extracting as much water as possible while not drawing down water levels over time), water demand fluctuations in the City are met by increasing or decreasing MWD imports. Therefore, the additional water demand associated with the proposed project would not require new or expanded water treatment facilities, as the water provided by MWD is treated at MWD facilities, which are designed and sized for regional water supply distribution. Given MWD's ongoing treatment system maintenance and improvements to meet ongoing regional demands, the proposed project 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, and therefore impacts would be less than significant

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<sup>2</sup> California Air Pollution Control Officers Association. *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. August 2010. Pg. 350, 371, and 372.

The proposed project is anticipated to connect to either or both of the existing 12-inch diameter water lines within 2<sup>nd</sup> Street and Marina Drive to provide water to proposed uses. As discussed previously, these lines currently serve the project site. Construction of the project would include all necessary on- and off-site water infrastructure improvements and connections to adequately connect to the City's existing water system pursuant to the requirements of the City Department of Public Works, Engineering Bureau. As it is anticipated that the existing water distribution system in the project vicinity is adequate to serve the proposed project, or that improvements would be provided by the project applicant to the satisfaction of the City's Department of Public Works, it is not expected that adverse effects related to water distribution infrastructure would result from project implementation. Therefore, the proposed project would not require or result in the construction of new water distribution facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and therefore impacts would be less than significant. No mitigation measures are required.

**(2) Would the project have insufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?**

**(a) Construction Water Use**

A short-term demand for water would occur during construction associated with demolition, excavation, grading, and other construction-related activities on-site. As the project would occur in phases over an approximately 30-month period, construction activities would occur intermittently and would be temporary in nature. Given the intermittent and unpredictable nature of construction-related water use, it is not possible to reliably quantify water demands associated with construction activities. Nonetheless, it is anticipated that the temporary demand for water supplies for construction activities such as soil watering (i.e., for fugitive dust control), demolition and construction activities, clean up, masonry, painting, and other related activities would require minimal water. Furthermore, the water demand generated by project construction activities would be offset by the reduction in water consumption resulting from the demolition of existing uses, which currently consume an average of approximately 12,500 gpd. Therefore, given the limited intermittent need for potable water during construction activities, and the relatively high demand associated with existing on-site uses, the demand for water is not anticipated to have adverse impacts on the available water supply. Overall, demolition and construction activities would require minimal water and would not be expected to have a substantial adverse impact on available water supplies. Therefore, sufficient water supplies would be available to serve the project's construction demands from existing entitlements and resources, and no new or expanded entitlements are needed. As such, water supply impacts associated with short-term construction activities would be less than significant, and no mitigation measures are required.

**(b) Operational Water Use**

Development of the proposed project would result in an increase in long-term water demand for operational uses, maintenance, and other activities on the project site. As discussed above, the LBWD prepared a project-specific WAA for the proposed development in May 2010, which is included in Appendix L of this EIR.

**(i) Water Availability Assessment**

The WAA prepared for the proposed project is based partially, but not wholly, on the UWMP most recently adopted by the Board of Water Commissioners. The WAA cannot be wholly based on the UWMP because the

plan relied on assurances in 2005 from MWD to the City and conditions affecting water supply have notably changed since 2005, as discussed further below.

***(a) LBWD'S Current UWMP Cannot Be the Sole Basis of the Water Availability Assessment***

LBWD's most recently adopted urban water management plan, its 2005 UWMP, revised in 2007, did not articulate specific development projects; but factored in their expected demand by projecting increases in factors influencing demand, such as increases in housing, population, and employment.

Approximately sixty-five-percent of the proposed project's demand will be from multi-family units and hotel rooms, the balance from retail, restaurant and other. The current UWMP projected water demands based on a number of factors, including an increase in multi-family housing from 89,703 units in 2005 to 112,716 units by 2030, or a total increase of 23,013 units. The proposed project, by adding 425 dwelling units (325 residential and 100 hotel), represents a very small fraction of the new water demand from multi-family housing accounted for in the current UWMP.

The current UWMP water demand forecast took growth in commercial/retail square footage into consideration, indirectly, by projecting an increase in water demand based on an increase in total employment, projecting an increase from 200,200 in 2005 to 244,400 jobs by 2030, an increase of 44,200 jobs. The proposed project's non-dwelling-unit space represents only about two-percent of this projected increase, or about 898 jobs (224,590 square feet x [DWR's equivalent of 1000 employees per 250,000 square feet]).

LBWD had used the UWMP to develop water availability assessments for projects since 2005 but before 2010. Although those projects were also not specifically identified in the then-current 2005 UWMP, the assessments found that projected water supplies for twenty years would be available during normal, single-dry, and multiple-dry water years to meet the projected water demand associated with these past projects, in addition to the existing and other planned future uses of LBWD's system.

Those assessments were fundamentally based on three factors: the reliability of LBWD's groundwater, MWD statements of reliability, and the City's preferential right to certain MWD water supplies.

What has not materially changed from the assumptions in the current UWMP are the reliability of LBWD's groundwater and the City's preferential rights to MWD supplies. Therefore, for the purpose of this WAA, the current UWMP as it pertains to groundwater and preferential rights is an appropriate reference, except as noted below. What has materially changed from the current UWMP is the reliability of MWD's imported water supplies. As discussed in the next section, MWD supplies are demonstrably less reliable than MWD anticipated in 2005 and that LBWD assumed in its current UWMP.

***(b) Change In Reliability of Imported Water***

MWD provides, through its wholesale water programs, about 50-percent of the potable water consumed in the City and throughout southern California. As such, MWD's reliability is essential for the reliability of the City and the region. These supplies are imported from the San Francisco/ Sacramento Delta region through the SWP and from the Colorado River through the Colorado River Aqueduct.

The current UWMP was based, in part, on the assurance provided at that time by MWD, that it would be able to provide all municipal consumptive demand for water for the next 25-years (from 2005 through 2030).

“Through effective management of its water supply, Metropolitan fully expects to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout the next twenty five years.” (MWD 2005 Regional UWMP, page II-15) It is an unfortunate but objective fact, however, that only four years after issuing that declaration MWD has had to eliminate certain kinds of water deliveries and allocate others due to a water supply shortage. MWD has been in a water shortage allocation for nearly a year, reducing supplies for municipal consumptive demand by 10-percent and completely eliminating groundwater replenishment services. In recommending the 10-percent reduction in municipal supplies to its customers, a recommendation adopted by MWD’s Board of Directors, MWD staff articulated the extraordinary measures it had taken to manage the water shortage.

The severity of the shortage is reflected in the fact that over 30 California communities in addition to MWD imposed mandatory conservation on their customers during this time, including the City. It must be assumed that the supply shortage could continue or that another such shortage could occur again in the next 20 years. Factors that affect this potential include the following:

- SWP reliability declines since 2005 – due to environmental degradation of the Delta, the SWP can be expected to deliver 15-percent less water than estimated in 2005;
- Colorado river water supply reliability is threatened by water supply and demand imbalance, over-allocation of available supplies, prolonged drought, climate change, and historic low storage;
- Potential curtailment of water transfers from agricultural regions to urban southern California;
- Overestimated reliability of supplies by over estimating how much water will be conserved;

As noted above, it is reasonable to assume MWD will suffer additional shortages over the next 20 years given the problems facing MWD such as those related to the SWP, the Colorado River, the Quantification Settlement Agreement, and MWD seemingly overly optimistic assumptions about water conservation. Nonetheless, an adequate supply of water is concluded to be available to meet the needs of existing LBWD customers as well as the new demand placed on LBWD by the proposed project because LBWD has a reliable supply of groundwater and LBWD has sufficient preferential rights to MWD supplies, as discussed below.

### ***(c) Preferential Rights***

By virtue of certain capital investment in MWD since the early 1930s, Long Beach is entitled to certain rights to MWD’s water. This entitlement is embedded in State law and comes in the form of a preferential right to MWD supplies. Section 135 of the MWD Act states:

*“Sec. 135. [Preferential Right to Purchase Water]: Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purposes, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall*

*bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense.”*

The MWD recalculates each of its member agency’s preferential rights on an annual basis. Preferential rights are expressed as a percent of MWD’s water. LBWD’s currently has a preferential right to about 2.5 percent of MWD supplies. For example, LBWD has a preferential right to receive approximately 37,500 acre-feet of MWD water when MWD only has 1,500,000 acre-feet of supplies. It is highly unlikely that MWD will ever have less than 1,500,000 acre-feet of water. MWD’s 2005 Regional UWMP assumes, even during a multi-year dry period, its supply will be more than 50-percent greater than this amount.

LBWD requested and MWD provided a current estimate of MWD’s reliability and LBWD’s preferential rights (in a letter dated May 13, 2010, included in Attachment F of the WAA). This current assessment finds MWD 100-percent reliable over the next 20 years under normal, single- and multiple-dry year events, with these caveats:

- The assumption of 100-percent reliability assumes certain minimum amounts of water will be in storage at the beginning of each dry period; and
- Even if MWD might otherwise be 100-percent reliable, it may choose to allocate supplies in order to preserve stored water for the future.

The letter reaffirms LBWD’s Preferential Rights, stating:

*“Section 135 of the Metropolitan Water District Act does not related to pricing but to amounts of water that can be purchased for domestic and municipal uses within a member agency service area. As such, any member agency is permitted to purchase supplies consistent with the Metropolitan Water District Act, including Section 135.” (page 3).*

Therefore, the amount of water represented by LBWD’s Preferential Rights, even in extreme shortages exceeds the supplementing water LBWD would need from MWD to complement its groundwater.

**(d) WAA Conclusions**

LBWD’s total projected water supplies and demands during normal, single-, and multiple-dry water years during a 20-year projection meet the projected water demand of the proposed project in addition to LBWD’s existing and planned future uses, including agricultural and manufacturing uses. As stated above, because the type of development such as the proposed project was included as part of the projected water demand in the current UWMP, the water demand for the proposed development need not be separately analyzed.

**(ii) Operational Water Supply Impacts**

As stated above, the WAA concludes that adequate water supplies will be available during normal, single-, and multiple-dry water years to meet the projected water demand associated with the proposed project, in addition to the existing and other planned future uses of the LBWD system. This finding is based on LBWD’s rights to a reliable supply of groundwater and LBWD’s preferential rights to water from the Metropolitan Water District of Southern California (MWD), per Section 135 of the Metropolitan Water District Act.

The WAA evaluates the future water demands of the proposed project using historical water use data and water demand factors for the various proposed uses. The projected net future water demand as calculated in the WAA, which takes into account existing water use on-site, is presented below in **Table IV.M.1-5, Estimated Water Use**. As shown in Table IV.M.1-5, the project's water demand is estimated to be approximately 130,340 gpd or 146.0 AFY without accounting for existing site uses. As discussed above, LBWD provided water service to existing uses located on the site, which required approximately 12,500 gpd or 14.0 AFY in 2009. Thus, when taking these existing uses into account, the project would result in a net water demand of approximately 117,850 gpd or 132.0 AFY. As concluded in the WAA, the anticipated increase water usage of 132.0 AFY would be within the available and projected water supplies for normal, single-dry, and multiple-dry years through the year 2030 water demand projections of LBWD's 2005 UWMP. Thus, LBWD would be able to meet the water demand of the project as well as existing and planned future water demands of its service area.

Table IV.M.1-5

## Estimated Water Use

Land Use	Demand Factors			Project Demand	
	Millions of Square Feet	Dwelling Units	AF/unit/year		
DWR Assumption**		500	0.5 per DU	250 AFY	% of Total Demand
Single-Family Dwelling Units		0	0.3 per DU <sup>a</sup>	0 AFY	0
Multi-Family Dwelling Units		325	0.25 per DU <sup>a</sup>	81 AFY	56
Hotels/Motels		100	0.14 per room <sup>b</sup>	14 AFY	10
Commercial/Retail Uses	0.225		224 per million SF <sup>c</sup>	50 AFY	34
Office Uses			224 per million SF <sup>c</sup>	0 AFY	0
<b>Expected Total Water Demand</b>				<b>146 AFY (130,340 gpd)</b>	
<b>Existing (2009) On-Site Water Demand</b>				<b>14 AFY (12,498 gpd)</b>	
<b>Net Demand Increase</b>				<b>132 AFY (117,842 gpd)</b>	

DU = dwelling unit    SF = square feet    AFY = acre-feet per year

<sup>a</sup> Based on average use in Long Beach per Long Beach Water Department.

<sup>b</sup> Based on average use of large hotels in Long Beach per Long Beach Water Department.

<sup>c</sup> Based on Long Beach Water Department Comprehensive Sewer System Master Plan and Management Program.

\*\* Note: In determining whether a project would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, it is generally acknowledged that one acre-foot of water can serve two to three households on an annual basis; therefore, one dwelling unit typically consumes .3 to .5 acre-feet of water per year, depending upon several factors, including the regional climate." (DWR Handbook, page 3).

Source: Long Beach Water Department, May 2010

In addition, implementation of water-conserving project design features provided above, as well as compliance with State and local laws regarding water conservation measures, including pertinent provisions of Title 20 and Title 24 of the California Code of Regulations and the LBMC, would further reduce the project's water consumption estimates for the project at full build out, thereby reducing the demand on City

supplies. As such, sufficient water supplies would be available to serve the project's operational demands from existing entitlements and resources, and no new or expanded entitlements are needed. Therefore, impacts regarding the availability of water to serve the project would be less than significant, and no mitigation measures are required.

#### **4. MITIGATION MEASURES**

The proposed project would result in less than significant impacts with regard to water treatment and distribution infrastructure and water supply during construction and operation. Therefore, no mitigation measures are necessary.

#### **5. CUMULATIVE IMPACTS**

The proposed project and identified related projects, both within the City of Long Beach and in the City of Seal Beach, would be served by local water treatment and distribution infrastructure. Additionally, as is the case with the proposed project, water treatment facilities serving the project area (including the project located in Seal Beach) already provide water treatment for the entire domestic water system serving the each project site. As such, given the ongoing maintenance and periodic/planned improvements of the water treatment system would ensure that cumulative development would not itself trigger a need for new or expanded water treatment facilities. The determination of the adequacy of the existing water distribution system in the area would be made by the respective Public Works Department or Water Department, as applicable, and if any local distribution infrastructure is determined to be inadequate to serve project-related demands, improvements would be required to be provided by the project applicant. Given review of infrastructure and utility plans for each related project, as well as provision of necessary improvements where deemed appropriate, cumulative impacts to water distribution infrastructure from implementation of the proposed project and related projects would be less than significant, and the proposed project's contribution to cumulative effects would not be considerable.

As discussed above, LBWD, as a public water service provider, is required to prepare and periodically update an UWMP to plan and provide for water supplies to serve existing and projected demands. The UWMP prepared by LBWD accounts for existing development within the City, as well as projected growth anticipated to occur through redevelopment of existing uses and development of new uses. Additionally, under the provisions of SB 610, LBWD is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area. The types of projects subject to the requirements of SB 610 tend to be larger projects (i.e., residential projects with at least 500 dwelling units, shopping centers employing more than 1,000 persons or having more than 500,000 SF of floor space, commercial office buildings employing more than 1,000 persons or having more than 250,000 SF of floor space, etc.) that may or may not have been included within the growth projections of the UWMP. The water supply assessment for such projects, in conformance with the UWMP, evaluates 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. In addition, as described above, SB 221 requires that for residential subdivisions with 500 units or more that are in non-urban areas, written verification from the service provider (e.g., LBWD) be submitted indicating sufficient water supply is available to serve the proposed subdivision, or the local agency shall make a specified finding that sufficient water supplies are or will be available prior to completion of the project.

Chapter III of this EIR identifies five related projects anticipated to be developed within the project vicinity. The water demand of the related projects is shown in **Table IV.M.1-6, Cumulative Water Demand**. As shown in Table IV.M.1-6, the related projects would have an average daily water demand of approximately 41,268 gpd or 46.22 AFY. The proposed project, in conjunction with the related projects, would yield a total average water demand of approximately 171,608 gpd or 192.22 AFY. As previously stated above, the LBWD's 2005 UWMP projects yearly water demand would reach 88,400 AFY by 2020. Therefore, development of the project and related projects would represent approximately 0.22-percent of the anticipated water demand by 2020. As such, the demand for water would fall within LBWD's 2005 UWMP available projected water supplies during normal, a single, and multiple dry years. Therefore, cumulative impacts to water supply would be less than significant, and the proposed project's contribution to cumulative effects would not be considerable.

Table IV.M.1-6

## Cumulative Water Demand

Map No.	Land Use	Quantity	Water Generation Factor (AF/year) <sup>a</sup>	Average Daily Water Demand (gpd)	Acre-Feet Per year (AFY) <sup>b</sup>
1	Tutoring Center	700 sf	224/1,000,000 sf	140	0.157
2	Retail/Restaurant	23,400 sf	224/1,000,000 sf	4,680	5.24
3	Retail/Car Wash	17,500 sf	224/1,000,000 sf	3,500	3.92
4	YMCA	8,500 sf	224/1,000,000 sf	1,700	1.90
5	Single Family	55 units	0.3/unit	14,730	16.50
	Hotel	75 rooms	0.14/room	9,374	10.50
	Outdoor Water Use <sup>c</sup>			7,144	8.00
	<b>Related Projects Total</b>			<b>41,268</b>	<b>46.22</b>
	<b>Proposed Project</b>			<b>130,340</b>	<b>146.00</b>
	<b>Related Projects Plus Proposed Project<sup>d</sup></b>			<b>171,608</b>	<b>192.22</b>

<sup>a</sup> Water demand generation factors are based on Long Beach Water Department water demand factors for residential, hotel, office, and retail uses, and City of Los Angeles Department of Public Works, Bureau of Sanitation generation factors for wastewater (plus an additional 25 percent to account for evaporation and absorption losses) for theater uses and outdoor water use.

<sup>b</sup> 1 acre foot = 325,851 gallon

<sup>c</sup> Estimated to be 28 percent of total retail, restaurant, and office uses, and 18 percent of residential and hotel uses.

<sup>d</sup> Total may not add up due to rounding.

Source: Linscott, Law & Greenspan Engineers, Inc., Traffic Impact Analysis for Second+PCH Development, February, 2011; Long Beach Water Department, Water Availability Assessment prepared for the 2<sup>nd</sup> Street and Pacific Coast Highway (PCH) Seaport Marina Mixed Use Development Long Beach, California, May 20, 2010

## 6. LEVEL OF SIGNIFICANCE OF AFTER MITIGATION

Construction and operation of the proposed project would result in less than significant impacts related to water treatment and distribution infrastructure and water supply, and, as such, no mitigation is required.