5.12 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (DEIR) addresses the potential for implementation of the City of Los Alamitos General Plan Update to impact utility and service systems in the City of Los Alamitos and its sphere of influence (SOI), that is, the community of Rossmoor, including water, wastewater, and solid waste services and systems.

5.12.1 Wastewater Treatment and Collection

5.12.1.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Clean Water Act and National Pollution Elimination Discharge System

Requirements for waste discharges from publicly owned treatment works to navigable waters are addressed in National Pollution Elimination Discharge System (NPDES) regulations under the Clean Water Act. NPDES permits for such discharges in the project region are issued by the Santa Ana Regional Water Quality Control Board.

Existing Conditions

Sewers

The Rossmoor/Los Alamitos Area Sewer District (R/LAASD) provides sewer service to the City and SOI, as shown in Figure 5.12-1, Service Districts. A small part of the City north of Spring Street along the northwest City boundary, mainly consisting of the Coyote Creek Channel, is outside the R/LAASD service area. R/LAASD sewers range from eight to 18 inches diameter (Boyle 2001).

R/LAASD sewers discharge via gravity into trunk sewers owned and maintained by the Orange County Sanitation District (OCSD), as shown in Figure 5.12-2, Sewer Plan. Two OCSD sewers extend north–south in Los Alamitos Boulevard; from Katella Avenue northward the two sewers separate, one extending through the northwest part of the City and the other east on Katella Avenue:

- **Los Alamitos Subtrunk sewer.** Follows Bloomfield Avenue, Cerritos Avenue, Oak Street, Katella Avenue, and Los Alamitos Boulevard

- **Westside Relief Interceptor.** Follows Lexington Drive, Katella Avenue, and Los Alamitos Boulevard

The Los Alamitos Subtrunk flows to the OCSD Westside Lift Station where it is pumped to the Seal Beach Boulevard Interceptor. OCSD sewers convey wastewater from the Lift Station to OCSD’s Reclamation Plant No. 2 in Huntington Beach (Boyle 2001). There are three major sanitary sewer drainage areas within Los Alamitos.
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

- **North Los Alamitos Sanitary Sewer Area.** This area is bounded by Katella Avenue to the south and Los Alamitos Boulevard to the east. Eight-inch diameter collectors drain in a southerly direction to a twelve-inch trunk along Los Alamitos Boulevard. Flow in this trunk is subsequently discharged to the Los Alamitos sub-trunk.

- **Katella Avenue Drainage Area.** This area follows Katella Avenue from Los Alamitos Boulevard east. Sewage flows in a westerly direction as 8-inch diameter collectors discharge into an existing 12-inch trunk line in Katella Avenue. Flow in this trunk line is diverted at several locations into the OCSD Westside Relief Interceptor.

- **Joint Forces Training Base.** This area includes the entire Joint Forces Training Base plus residential development east of Los Alamitos Boulevard. Sewage flows in a westerly direction. Eight-inch and ten-inch collectors discharge into the OCSD Westside Relief Interceptor in Los Alamitos Boulevard.

In 2001, R/LAASD completed a comprehensive Sewer System Management Plan. The plan, prepared by Boyle Engineering, projected a peak flow of approximately 8.6 million gallons per day (mgd) for the entire district, and found the sewer system to be generally capable of handling normal and peak sewer flows. As part of the required Sewer System Management Plan, a Sewer System Evaluation and Capacity Assurance Plan prepared by Psomas in 2005 also found that the district's existing collection system is capable of handling this flow without generating any significant problems. This finding is reinforced by the fact that the R/LAASD has not experienced any sanitary sewer overflows.

Furthermore, OCSD upgraded the Westside Pump Station in 2009 to address capacity issues with the pump station and to minimize future surcharge conditions. Additional OCSD improvements are also proposed for the trunk lines serving the Los Alamitos area, including 34,350 linear feet of replacement pipe for the Los Alamitos Sub-trunk and 32,100 linear feet of replacement for the Westside Relief Interceptor Pipeline along the eastern border of the City. There is no evidence of hydraulic deficiencies within the R/LAASD system that discharges into the OCSD trunk lines.

**Adjacent Sewer Systems**

There are three areas in Los Alamitos that are served by neighboring local sewer agencies or discharge into adjacent systems:

- **El Dorado Park Estates East and Bungalows.** The City of Long Beach Water Department provides sewer service for the El Dorado Park Estates East and Bungalows neighborhoods.

- **Country Square.** The Country Square neighborhood discharges north to Long Beach but connects to the OCSD trunk line in Bloomfield Street.

- **Parkwood.** The Parkwood neighborhood discharges south to the Seal Beach local collection system.
5. Environmental Analysis

Figure 5.12-1 Service Districts

Source: City Boundary

City Boundary

Sphere of Influence

Other City Boundaries

Orange County Flood Control District (OCFCD)

Golden State Water Company (GSWC)

Rossmoor/Los Alamitos Area Sewer District (R/LAASD)*

*Note: The Orange County Flood Control District serves all of Orange County
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

This page intentionally left blank.
5. Environmental Analysis

Figure 5.12-2 Sewer Plan

- R/LAASD Boundary
- OCSD Trunk
- RLASD Sewer
- Parcels served by Long Beach Water District
- City Boundary
- Sphere of Influence
- Other City Boundaries

Source: City of Los Alamitos, 2013

6/25/2014
This page intentionally left blank
Wastewater Treatment

Reclamation Plant No. 2 is adjacent to the Santa Ana River and approximately 1,500 feet from the Pacific Ocean in Huntington Beach. This plant provides a mix of advanced primary and secondary treatment. Primary treatment is the removal of solids using settling tanks, and secondary treatment is the reduction of organic matter using bacteria and oxygen, followed by further removal of solids. The plant receives raw wastewater through five major sewers, and discharges into the ocean disposal system through a 120-inch outfall at 200 feet below sea level and nearly five miles offshore. Current capacity for Reclamation Plant No. 2 is 168 mgd of primary treated wastewater and 150 mgd of secondary treated wastewater. The current average flow is 103 mgd, so remaining capacity at this plant is approximately 65 mgd (OCSD 2013).

Estimated Wastewater Generation

Assuming that indoor water use is 70 percent of all water use and all indoor use discharges into sewers, existing wastewater generation in the City and Rossmoor is approximately 2.3 mgd (see Section 5.12.2, Water Supply and Distribution Systems) (DWR 2010).

5.12.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

U-2 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.

U-5 Would result in a determination by the wastewater treatment provider which serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold U-1

This impact will not be addressed in the following analysis.

5.12.1.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.
Impact 5.12-1: Buildout of the General Plan Update would generate an increase in wastewater, but additional generation could be adequately treated by the Orange County Sanitation District's existing wastewater treatment facilities. [Thresholds U-2 (part) and U-5]

**Impact Analysis:** Assuming that 70 percent of water use is indoor use, and that 100 percent of that water is discharged into sewers, wastewater generation in the City and Rossmoor at General Plan buildout would be approximately 2.4 mgd. Wastewater generation would increase by 134,583 gallons per day compared to existing conditions.

**Wastewater Treatment Capacity Impacts**

The existing residual capacity at OCSD Reclamation Plant No. 2, which treats wastewater from the City and SO1, is about 65 mgd, far greater than the forecast net increase in wastewater generation due to the General Plan Update buildout. Wastewater generation by the General Plan Update buildout would not require OCSD to build new or expanded wastewater treatment facilities, and impacts would be less than significant.

**Sewer Impacts**

General Plan Update buildout would involve substantial land use intensification on only a handful of parcels. Incremental intensification could occur through small projects (e.g., adding a second dwelling unit or expanding a storefront) in some other locations in the City. Substantial intensification of land uses may require installation of new or expanded sewer laterals and installation of new or expanded sewer mains. Sewer mains are generally within roadways; thus, installation of new or expanded sewer mains would involve disturbance of soil that has been previously disturbed for construction of roadways and installation of existing utilities. Construction-related impacts from installation of sewer laterals and/or sewer mains would be part of the impacts of buildout of the entire General Plan Update analyzed throughout Chapter 5 of this DEIR. New development would be required to ensure that sufficient sewer capacity is available. No significant impacts would occur.

5.12.1.4 **APPLICABLE GENERAL PLAN UPDATE POLICIES**

**Public Facilities and Safety Element**

- Policy 1.2 Sewer system - Work with the Rossmoor Los Alamitos Sewer District to maintain adequate and efficient sewage disposal services.

5.12.1.5 **EXISTING REGULATIONS AND STANDARD CONDITIONS**

**Federal**

- Code of Federal Regulations Title 40 Parts 122 et seq.: National Pollution Elimination Discharge System regulations
5.12.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.12-1 would be less than significant.

5.12.7 MITIGATION MEASURES

No mitigation measures are required.

5.12.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.12.2 Water Supply and Distribution Systems

5.12.2.1 ENVIRONMENTAL SETTING

Regulatory Background

20x2020 Water Conservation Plan

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

Senate Bills 610 and 221

To assist water suppliers, cities, and counties in integrating water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers, cities, and counties. Both require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. The statutes recognized local control and decision making regarding the availability of water for projects and the approval of projects. While SB 610 and SB 221 are not applicable to general plans, future projects subject to these statutes are required to provide a water supply assessment. Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a], including this one. Under SB 221, approval by a city or
5. Environmental Analysis

UTILITIES AND SERVICE SYSTEMS

county of certain types of residential subdivision requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe to ensure collaboration on finding the needed water supplies to serve a new large subdivision before construction begins. General plans serve as an important planning tool for the local water supply when they prepare the 20 year vision for the Urban Water Management Plan (UWMP).

**Urban Water Management Planning Act**

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply and assesses reliability of each source of water, over a 20-year period, in 5-year increments
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies. Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (SBX7-7), which amends the act and adds new water conservation provisions to the Water Code.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 acre-feet of water per year (afy) should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. Both SB 610 and SB 221 identify the UWMP as a planning document that can be used by a water supplier to meet the standards in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes, and they are important source documents for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent (DWR 2014a).

**Principles Governing CEQA Analysis of Water Supply**

In *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (February 1, 2007), the California Supreme Court articulated the following principles for analysis of future water supplies for projects subject to CEQA:

- To meet CEQA’s informational purposes, the EIR must present sufficient facts to decision makers to evaluate the pros and cons of supplying the necessary amount of water to the project.
- CEQA analysis for large, multiphase projects must assume that all phases of the project will eventually be built and the EIR must analyze, to the extent reasonably possible, the impacts of providing water to the entire project. Tiering cannot be used to defer water supply analysis until future phases of the project are built.
CEQA analysis cannot rely on “paper water.” The EIR must discuss why the identified water should reasonably be expected to be available. Future water supplies must be likely, rather than speculative.

When there is some uncertainty regarding availability of future water supply, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources. Where a full discussion still leaves some uncertainty about the long-term water supply’s availability, mitigation measures for curtailing future development in the event that intended sources become unavailable may become a part of the EIR’s approach.

The EIR does not need to show that water supplies are definitely assured because such a degree of certainty would be “unworkable, as it would require water planning to far outpace land use planning.” The requisite degree of certainty of a project’s water supply varies with the stage of project approval. CEQA does not require large projects, at the early planning phase, to provide high degree of assurances of certainty regarding long-term future water supplies.

The EIR analysis may rely on existing urban water management plans, as long as the project’s new demand was included in the water management plan’s future demand accounting.

The ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.

**Governor’s Drought Declaration**

California Governor Edmund Brown Jr. declared a drought state of emergency on January 17, 2014, asking Californians to reduce water use by 20 percent. 2013 was the driest year in recorded history in many parts of California. The extreme drought is continuing in 2014: statewide, between October 1 2013 and June 30 2014, precipitation was 50 percent of average, runoff was 35 percent of average, and reservoir storage 60 percent of average (DRW 2014b). The DWR announced on January 31, 2014, that if current dry conditions persist, customers would receive no deliveries from the State Water Project in 2014, except for small carryover amounts from 2013. Deliveries to agricultural districts with long-standing water rights in the Sacramento Valley may be cut 50 percent—the maximum permitted by contract—depending on future snow survey results. Almost all areas served by the SWP also have other sources of water, such as groundwater and local reservoirs (DWR 2014b).

The State Water Resources Control Board approved emergency regulation requiring water conservation in outdoor water use on July 15, 2014. The regulation prohibits washing down driveways and sidewalks; watering of outdoor landscapes that cause excess runoff; using a hose to wash a motor vehicle, unless the hose is fitted with a shut-off nozzle, and using potable water in a fountain or decorative water feature, unless the water is recirculated. Violators could be fined (SRWCB 2014).
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

City of Los Alamitos Municipal Code

Chapter 13.04 Water Conservation

Chapter 13.04 of the City’s Municipal Code sets water waste prohibitions, including limitations on irrigation and other outdoor water uses; and requirements that water leaks be repaired. The section of the Municipal Code outlines conservation measures the City may take in the event of a drought. The City already requires water conservation measure such as restrictions on watering between 9:00 AM and 5:00 PM, automated watering between 6:00 AM and 8:00 PM, allowing irrigation water to run into the pavement, watering of more than 15 minutes in any zone (excluding drip irrigation), and restaurants serving water unless requested. In addition, to conservation measures that are in place in the City at all times, pursuant to the Municipal Code, the City may implement Stage 1, Stage 2, or Stage 3 conservation measures when it is notified by its water supplier that a drought or other condition of sufficient magnitude and duration exists that may warrant additional conservation. To declare a Stage 1, Stage 2, or Stage 3 drought conditions, the City Council would hold a regular or special meeting to review the status of the water supply in the City. The City’s declaration of a Stage 1, Stage 2, or Stage 3 drought conditions is required to be made by public announcement and published three conservative times in a newspaper of general circulation in the City. The following describes additional measures during a Stage 1, Stage 2, or Stage 2 drought declaration:

- Stage 1 – water supplies are reduced to 10 percent or less.
  - Restaurants must use water conserving dish spray nozzles.
  - Ornamental lakes and ponds shall not be filled or refilled with potable water except to the extent needed to sustain aquatic life.
  - Outdoor irrigation of landscape with potable water will only be allowed three days a week.
  - Fix leaks within 72 hours.

- Stage 2 – water supplies are reduced between 10 and 20 percent.
  - Outdoor irrigation of landscaping with potable water will only be allowed two days a week.
  - Fix leaks within 48 hours.
  - No filling of lakes/ponds.
  - Wash vehicles only at car wash system.

- Stage 3 – water supplies are reduced to 20 percent or more.
  - Potable water service will not be provided to new land development projects except under the following circumstances:
    - A valid building permit has been issued for the project, or
    - The project is necessary to protect public health, safety, and welfare, or
The application provides evidence that the project will not include conservation offsets prior to provision of new water service.

Existing Conditions

Water Supplies

The Golden State Water Company Orange County District West Orange System (GSWC), provides potable water to the City of Los Alamitos and community of Rossmoor. GWSC’s service area includes the entire General Plan area plus most of the cities of Cypress and Stanton; small portions of the Cities of Seal Beach, Garden Grove, and La Palma; and adjacent unincorporated areas of Orange County. GSWC’s distribution system includes 244 miles of water mains.

GSWC obtains water supplies from two sources: groundwater from the Main Orange County Groundwater Basin and treated surface water purchased from the Metropolitan Water District of Southern California (MWD). Groundwater is projected to make up about 62 percent of GSWC’s supplies, and imported water 38 percent, from 2015 to 2035. Recycled water is currently not used in GWSC’s service area, due to the economic infeasibility of installing a recycled water distribution system; no recycled water use is projected in Los Alamitos through 2035 (Kennedy-Jenks 2011).

- **Groundwater.** GSWC operates 16 active groundwater wells in the Main Orange County Groundwater Basin (Basin), which is managed by the Orange County Water District (OCWD). The Basin underlies much of western and central Orange County. OCWD regulates the amount of groundwater pumped from the Basin and sets the Basin Production Percentage (BPP) for all pumpers. The BPP for GSWC is anticipated to be 62 percent of the total water demands from 2015 to 2035. The 16 active wells have a total current capacity of 11,750 gallons per minute or 18,954 afy.\(^1\)

- **Imported Water.** GWSC procures water from the Municipal Water District of Orange County (MWDOC), which obtains it from MWD, which imports water from northern California via the State Water Project (SWP) and from the Colorado River. Imported water was about 33 percent of GWSC’s water supplies in 2010, and is estimated to constitute about 38 percent of GWSC’s water supplies between 2015 and 2035.

In accordance with the Urban Water Management Planning Act, GSWC has prepared a 2010 Urban Water Management Plan, which projects that GSWC’s water supply will increase by approximately 14 percent from 2010 to 2035 to meet associated project water demands, to be met by imported water from MWDOC and increased groundwater extractions. Existing and projected GSWC water supplies from 2010 through 2035 are shown below in Table 5.12-1, *GSWC West Orange System Projected Normal Year Water Supplies and Demands.* The UWMP also estimates that water supplies will be adequate to meet water demands in single-dry-year and multiple-dry-year conditions.

\(^1\) One acre-foot is about 325,851 gallons; 1 afy is about 0.62 gallons per minute.
5. Environmental Analysis

UTILITIES AND SERVICE SYSTEMS

Table 5-12-1 GSWC West Orange System Projected Normal Year Water Supplies and Demands

<table>
<thead>
<tr>
<th>Source</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Demands³</td>
<td>18,496</td>
<td>18,522</td>
<td>18,826</td>
<td>19,105</td>
<td>19,210</td>
</tr>
<tr>
<td>Groundwater</td>
<td>11,533</td>
<td>11,879</td>
<td>12,007</td>
<td>12,129</td>
<td>12,180</td>
</tr>
<tr>
<td>Imported</td>
<td>7,069</td>
<td>7,281</td>
<td>7,359</td>
<td>7,434</td>
<td>7,465</td>
</tr>
<tr>
<td>Total Supply</td>
<td>18,602</td>
<td>19,160</td>
<td>19,366</td>
<td>19,562</td>
<td>19,645</td>
</tr>
</tbody>
</table>

Source: Kennedy-Jenks 2011
Note: ³ Water demand projections are based on water conservation targets required under SBX7-7.

Water Treatment Facilities

Water treatment facilities filter and/or disinfect water before it is delivered to customers. Imported water is treated by any of three MWD water filtration plants: the Joseph Jensen Plant in the Community of Granada Hills in the City of Los Angeles in Los Angeles County has a capacity of 750 mgd; the Robert Diemer Plant in the City of Yorba Linda in Orange County has a capacity of 520 mgd; and the F. E. Weymouth Plant in the City of La Verne in Los Angeles County has a capacity of 520 mgd (Kennedy-Jenks 2011; MWD 2013).

Water Storage

GSWC has three reservoirs with a total capacity of 4.5 million gallons (Kennedy-Jenks 2011).

GSWC Water Demand

In 2010, the total water demand in GSWC’s service area was approximately 13,831 acre-feet (af), supplied by 5,027 af of imported water and 10,260 af of local groundwater. Total future demands for GWSC water is shown in Table 5.12-1.

The SBX7-7 water use baseline for GSWC is 151 gallons per capita per day (gpcd) and the 2020 compliance goal is 140 gpcd. Over the past few years, per-capita water use has declined for several reasons, including mild climatic conditions, economic recession, and a tiered residential pricing structure aimed at conservation. Per-capita water use has gone down 15 percent from 2008 (144 gpcd) to an estimated 122 gpcd in 2010. The GSWC currently satisfies its SBX7-7 goals and will focus on maintaining current water conservation.

Estimated Existing Water Demand in Los Alamitos

Water demand in Los Alamitos is estimated based on the SBX7-7 water rates in GSWC’s 2010 UWMP (see also Table 5.12-3). The City and Rossmoor have a current water demand of approximately 3.3 mgd, or approximately 3,657 afy. The estimated water use rate includes all water uses, including residential, commercial, industrial, and institutional uses, and landscape irrigation.
Water Supply Reliability

Groundwater

GSWC can pump the BPP set annually by OCWD based on hydrologic conditions in the Basin, including groundwater levels and the amount of groundwater in storage. MWDOC has completed reliability analyses for each of the five-year projection periods from 2010 through 2035 for GSWC’s groundwater supply and projects an average BPP of 62 percent. One of OCWD’s water management goals in the Basin is to set the BPP as high as possible, while responsibly managing the groundwater supply. A high BPP reduces the demand on imported water supplies and offers pumpers a less expensive water supply alternative than imported water.

Five agencies, in addition to the pumpers, work cooperatively to ensure that a reliable water supply is available to be pumped by the pumpers in the Orange County Basin. These agencies are the OCWD, MWD, Water Replenishment District of Southern California (WRD), Los Angeles County Department of Public Works, and the OCSD. Current and planned projects designed to increase groundwater reliability in the Orange County Basin include seawater intrusion barriers, in-lieu groundwater replenishment, diverted surface-water flows recharged at spreading basins, and the groundwater replenishment system (GWRS), which involves the use of highly treated wastewater for groundwater recharge.

The MWD, in cooperation with MWDOC and OCWD, operates an in-lieu replenishment program in the Orange County Basin. When excess supplies and treatment capacity are available from the MWD, pumpers turn off their wells and receive MWD water instead of pumping groundwater. This program reduces the amount of water pumped from the Basin.

The Basin is intentionally recharged with surface water and stormwater from the Santa Ana River and Santiago Creek, imported water from northern California and the Colorado River, and recycled water. In addition, the Basin is naturally recharged from surrounding hills and mountains.

Groundwater recharge amounts from July 2011 to June 2012, and averages for the 10-year period from 2001-2002 to 2011-2012, are shown below in Table 5.12-2, Main Orange County Groundwater Basin Recharge.

<table>
<thead>
<tr>
<th>Source</th>
<th>2011-2012</th>
<th>10-Year Average, 2001-2002 to 2011-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentional Recharge (OCWD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Water (Santa Ana River base flow,</td>
<td>129,285</td>
<td>184,122</td>
</tr>
<tr>
<td>Santiago Creek, and stormwater)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imported Water</td>
<td>90,122</td>
<td>67,819</td>
</tr>
<tr>
<td>Recycled Water2</td>
<td>72,258</td>
<td>29,289</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>291,665</strong></td>
<td><strong>282,654</strong></td>
</tr>
<tr>
<td>Natural Recharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidental Recharge</td>
<td>27,701</td>
<td>64,966</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>319,366</strong></td>
<td><strong>347,620</strong></td>
</tr>
</tbody>
</table>

Source: OCWD 2013

1 All years are from July to June

2 The Groundwater Replenishment System (GWRS) began operating in 2008 and has capacity of 70 million gallons per day; recycled water from the GWRS was not available for most of the 2001-2012 period.
Future Water Supply Projects

GWSC signed a letter of intent in 2009 to purchase up to 5,000 afy from the proposed Cadiz Valley Water Conservation, Recovery and Storage Project (Cadiz Project) in eastern San Bernardino County, California. The project is designed to capture and conserve—through an aquifer system beneath Cadiz's property—thousands of acre-feet of native groundwater currently being lost to evaporation. By implementing established groundwater management practices, the project will create a new, sustainable annual water supply for project participants. In addition, the project offers storage capacity that can be used by participants to carry over—or “bank”—annual supplies without the high rates of evaporative loss suffered by local surface reservoirs. The Cadiz Project will produce up to 50,000 afy for fifty years. GSWC is one of five entities that have expressed an interest in receiving water from the project (Kennedy-Jenks 2011).

Imported Water

The Southern California region faces a challenge satisfying its water requirements and securing its firm water supplies. Increased environmental regulations and competition for water from outside the region have resulted in reduced supplies of imported water. Continued population and economic growth correspond to increased water demands within the region, putting an even larger burden on local supplies. A number of significant factors affecting delivery reliability are discussed below. Major sources of uncertainty include Sacramento Delta pumping restrictions, organism decline, climate change and sea level rise, and levee vulnerability to floods and earthquakes.

MWD’s 2010 Regional UWMP reports on its water reliability and identifies projected supplies to meet the long-term demand within its service area. It presents MWD’s supply capacities from 2015 through 2035: single dry year, multiple dry years, and average year.

- Colorado River Aqueduct Supplies. CRA supplies result from existing and committed programs and from implementation of the Quantification Settlement Agreement (QSA) and related agreements to transfer water from agricultural agencies to urban uses. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.25 million af on an as-needed basis.

- State Water Project Supplies. MWD’s SWP supplies have been impacted in recent years by restrictions on SWP operations in accordance with the biological opinions of the US Fish and Wildlife Service and National Marine Fishery Service issued on December 15, 2008, and June 4, 2009, respectively. In dry, below-normal conditions, MWD has increased the supplies received from the California Aqueduct by developing flexible Central Valley/SWP storage and transfer programs. The goal of these programs is to develop additional dry-year supplies that can be conveyed through the available pumping capacity to maximize deliveries through the California Aqueduct during dry hydrologic conditions and regulatory restrictions. In June 2007, MWD’s Board approved a Delta Action Plan that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable delta and reduce conflicts between water supply conveyance and the environment. The Delta Action Plan aims to prioritize immediate short-term actions to stabilize the Sacramento River Delta while a long-term solution is selected, and mid-term steps to maintain the Bay-Delta while the solution is implemented. State and federal resource agencies and various environmental and water user entities are currently
engaged in the development of the Bay Delta Conservation Plan, which is aimed at addressing the basic elements, such as the restoration of the delta ecosystem, water supply conveyance, flood control protection, and storage development. In evaluating the supply capabilities for the 2010 Regional UWMP, MWD assumed that a new delta conveyance will be fully operational by 2022 that will return supply reliability similar to 2005 conditions, prior to supply restrictions.

- **Storage.** Storage is a major component of MWD’s dry-year resource management strategy. MWD’s likelihood of having adequate supply capability to meet projected demands, without implementing its water supply allocation plan (WSAP), is dependent on its storage resources. In developing the supply capabilities for the 2010 Regional UWMP, MWD assumed a simulated median storage level going into each of the five-year increments based on the balances of supplies and demands.

- **Supply Reliability.** MWD evaluated supply reliability by projecting supply and demand conditions for the single- and multiyear drought cases based on conditions affecting the SWP (MWD’s largest and most variable supply). For this supply source, the single driest year was 1977 and the three-year dry period was 1990 through 1992. The analyses are illustrated in MWD’s 2010 Regional UWMP, Tables 2-11, 2-9, and 2-10. These tables show that the region can provide reliable water supplies not only under normal conditions but also under the single driest year and the multiple dry year hydrologies.

**2013-2014 California Drought**

The current extreme drought in California is described above under *Regulatory Background*.

**Water Supplies Contingency Plan**

Recent water supply challenges throughout the Southwest and the State of California have resulted in the development of a number of policy actions that water agencies would implement in the event of a water shortage. In southern California, the development of such policies has occurred at both the wholesale and retail level. This section describes new and existing policies that MWD, MWDOC, and the City have in place to respond to water supply shortages, including a catastrophic interruption and up to a 50 percent reduction in water supply.

**Metropolitan Water District**

A number of water supply challenges have impacted the reliability of MWD’s imported supplies. In response, MWD has implemented existing policies and developed new ones. MWD’s first action in the event of a water shortage is the suspension and/or reduction of its interruptible supplies, which are supplies sold at a discount to buyers who agree to be the first cut back in the event of a shortage. MWD currently has two interruptible programs for agricultural users and groundwater replenishment, under which supplies were either suspended or reduced in 2007.

In addition, in preparation for the possibility of being unable to meet the “firm demands” (noninterruptible supplies) of its member agencies, in February 2008 the MWD’s Board of Directors adopted the WSAP, which was updated in June 2009. MWD’s plan includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. The WSAP is
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and is part of MWD’s 2010 Regional UWMP.

The WSAP was developed in consideration of the principles and guidelines described in MWD’s 1999 water surplus and drought management plan (WSDM), with the objective of creating an equitable needs-based allocation. The plan’s formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of up to 50 percent. The formula takes into account impacts on retail customers and the economy, growth and population, changes in supply conditions, investments in local resources, implementation of conservation programs, participation in MWD’s interruptible programs, and investments in facilities.

MWDOC

To prepare for the potential allocation of imported water supplies from MWD, MWDOC worked collaboratively with its 28 member agencies to develop its own WSAP, adopted January 2009, to allocate imported water supplies at the retail level. The MWDOC WSAP lays out the essential components of how MWDOC will determine and implement each member agency’s allocation during a time of shortage. The MWDOC WSAP uses a similar method and approach, when reasonable, as WSAP. However, MWDOC’s plan remains flexible to use an alternative approach if MWD’s method produces a significant unintended result for the member agencies.

Catastrophic Supply Interruption

Given the great distances that imported supplies travel to reach Orange County, the region is vulnerable to interruptions along hundreds of miles of aqueducts, pipelines, and other facilities. Additionally, this water is distributed to customers through an intricate network of pipes and water mains that are susceptible to damage from earthquakes and other disasters.

- **Metropolitan Water District.** MWD has comprehensive plans for stages of actions it would undertake through its WSDM and WSAP plans to address a catastrophic interruption in water supplies. MWD also developed an emergency storage requirement to mitigate a potential interruption in water supplies resulting from catastrophes in southern California, such as seismic events along the San Andreas Fault. Under the requirement, the City must maintain seven days’ worth of water supply in storage. In addition, MWD is working with the state to implement a comprehensive improvement plan to address catastrophes outside the southern California region, such as a large earthquake in the Sacramento River Delta that would cause levee failure and disrupt SWP deliveries. For greater detail on MWD’s planned responses to catastrophic interruption, please refer to MWD’s Regional UWMP.

- **Water Emergency Response Organization of Orange County.** In 1983, the Orange County water community identified a need to develop a plan for how agencies would respond effectively to disasters impacting the regional water distribution system. The collective efforts of these agencies resulted in the formation of the Water Emergency Response Organization of Orange County (WEROC) to coordinate emergency response on behalf of all Orange County water and wastewater agencies, develop an emergency plan to respond to disasters, and conduct disaster training exercises for the Orange County
water community. WEROC was established with the creation of an indemnification agreement between its member agencies to protect each other against civil liabilities and to facilitate the exchange of resources. WEROC is unique in its ability to provide a single point of contact for representation of all water and wastewater utilities in Orange County during a disaster. This representation is to the county, state, and federal disaster coordination agencies. In the Orange County Operational Area, WEROC is the recognized contact for emergency response for the water community.

5.12.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-2 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.

U-4 Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.

5.12.2.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.12-2: The General Plan Update would increase water demand by 192,262 gallons per day; however, the Golden State Water Company’s water supply and delivery systems are adequate to meet the water demands of project in addition to its other service obligations. [Thresholds U-2 (part) and U-4]

Impact Analysis:

Forecast Water Demand by General Plan Buildout

Water demand is estimated using the water demand SBX7-7 rates identified in GSWC’s 2010 UWMP. As identified in Table 5.12-3, Forecast Water Demands by General Plan Buildout, the General Plan Update would result in an increase in 192,262 gallons per day or 215 afy. The forecast net increase in water demands due to General Plan buildout is well within the forecast increase in GSWC water supplies from 2015 to 2035 (1,043 afy). While California currently faces very severe drought conditions, GWSC forecasts that it will have adequate water supplies to meet demands in single-dry-year and multiple-dry-year conditions from 2015 through 2035. Water demand due to General Plan buildout would not require GSWC to obtain new or increased water supplies, and impacts would be less than significant.
5. Environmental Analysis

UTILITIES AND SERVICE SYSTEMS

Table 5.12-3  Forecast Water Demands by General Plan Buildout

<table>
<thead>
<tr>
<th>Area</th>
<th>Existing (2013)</th>
<th>General Plan Buildout</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Service</td>
<td>Water Demand</td>
<td>Service</td>
</tr>
<tr>
<td></td>
<td>Population</td>
<td>Gallons Per SP Per day</td>
<td>Total</td>
</tr>
<tr>
<td>City of Los Alamitos</td>
<td>25,649</td>
<td>90</td>
<td>2,307,914</td>
</tr>
<tr>
<td>Community of Rossmoor</td>
<td>10,629</td>
<td>90</td>
<td>956,404</td>
</tr>
<tr>
<td>Total</td>
<td>36,278</td>
<td>90</td>
<td>3,264,318</td>
</tr>
</tbody>
</table>

Source: Kennedy-Jenks 2011
Note: SP: service population

1 Estimated water demand is based on the gallons per SP per day derived from the SBX7-7 gallons per capita per day (gpcd) rates identified by GSWC in the 2010 UWMP for 2010 and 2020. Service population is defined as residents plus employees, whereas per capita accounts for only the population in the City. The existing water use is identified as 151 gpcd, which equates to 90 gallons per SP per day. SBX7-7 requires a 20 percent reduction in urban per capita water use by 2020. The future water use is identified as 140 gpcd, which equates to 83 gallons per SP per day.

Water Treatment Facilities

The three MWD water treatment facilities supplying water to GSWC have total capacity of 1.79 billion gallons per day, vastly greater than the projected net increase in water demands due to General Plan Update buildout. Water demands resulting from General Plan Update buildout in addition to demand from growth within the GSWC service area would not require construction of new or expanded water treatment facilities even when other water users are taken into account as the water treatment capacity is nearly 10,000 times the net increase in project water demands for Los Alamitos.

Water Conveyance

General Plan Update buildout would involve substantial land use intensification on only a handful of parcels. Incremental intensification could occur through small projects (e.g., adding a second dwelling unit or expanding a storefront) in some other locations in the City. Substantial intensification of land uses would probably require installation of new or expanded water laterals and could require installation of new or expanded water mains. Water mains are generally within roadways; thus, installation of new or expanded water mains would involve disturbance of soil that has been previously disturbed for construction of roadways and installation of existing utilities. Construction-related impacts from installation of water laterals and/or water mains would be part of the impacts of buildout of the entire General Plan Update analyzed throughout Chapter 5 of this DEIR. New development would be required to ensure that sufficient water facilities are available to meet the City and Fire Code requirements. No significant impacts would occur.

5.12.2.4 APPLICABLE GENERAL PLAN POLICIES

Open Space, Recreation, and Conservation Element

- Policy 3.1 Native plants - Require the use of native and climate-appropriate plant species, and prohibit the use of plant species known to be invasive.
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEM

- **Policy 4.5 Energy and water conservation** - Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City’s zoning ordinance and the California Building Code.

- **Policy 4.6 Irrigation** - Encourage the use of water-efficient irrigation systems and reclaimed water for irrigation.

**Public Facilities and Safety Element**

- **Policy 1.1 Water quality and supply** - Work with Golden State Water Company to maintain high water quality and ensure adequate water supply for personal use, landscaping, and fire protection.

- **Policy 1.4 New development** - New development shall pay its fair share of public facility and infrastructure improvements.

5.12.2.5 **EXISTING REGULATIONS AND STANDARD CONDITIONS**

**State**

- California Water Code Sections 10610 et seq.: Urban Water Management Planning Act

- California Water Code Sections 10800 et seq. and 10608 et seq.: Water Conservation Act of 2009 (SBX7-7)

- Chapter 642, Statutes of 2001: Senate Bill 221: Land Use and Water Supplies


**City of Los Alamitos Municipal Code**

- Chapter 13.04: Water Conservation

- Chapter 13.05: Water Efficient Landscaping

5.12.2.6 **LEVEL OF SIGNIFICANCE BEFORE MITIGATION**

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.12-2 would be less than significant.

5.12.2.7 **MITIGATION MEASURES**

No mitigation measures are required.

5.12.2.8 **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts would be less than significant.
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

5.12.3 Storm Drainage Systems

5.12.3.1 ENVIRONMENTAL SETTING

Regulatory Background

County of Orange Municipal Stormwater Permit, Drainage Area Management Plan, and Local Implementation Plans

In May 2009, the Regional Water Quality Control Board (RWQCB) reissued the North Orange County MS4 Stormwater Permit as Waste Discharge Requirement Order R8-2009-0030, NPDES Permit No. CAS618030, to the County of Orange, the incorporated cities in Orange County, and the Orange County Flood Control District (OCFCD) within the Santa Ana Region. Pursuant to this “Fourth-Term” MS4 permit, the co-permittees were required to develop and implement a drainage area management plan (DAMP) for their jurisdictions and local implementation plans (LIPs) that describe the urban runoff management programs for their local jurisdictions, such as the City of Los Alamitos.

Under the City’s LIP, land development policies pertaining to hydromodification and low-impact development (LID) are regulated for new developments and significant redevelopment projects. “Hydromodification” is the changes in runoff characteristics from a watershed caused by changes in land-use conditions. More specifically, hydromodification is “the change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow, and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport.” The use of LID best management practices (BMPs) in project planning and design is to preserve a site’s predevelopment hydrology by minimizing the loss of natural hydrologic processes such as infiltration, evaporation, and runoff detention. LID BMPs try to offset these losses by introducing structural and nonstructural design components that restore these water quality functions into a project’s land plan. These requirements are detailed in the countywide Model Water Quality Management Plan (WQMP) and Technical Guidance Document, which the City approved in May 2011.

City of Los Alamitos Municipal Code

City Municipal Code requirements for drainage and stormwater quality protection are set forth in Chapter 8.44, Stormwater and Urban Runoff Pollution Controls. New development projects, and redevelopment projects adding 5,000 square feet of impervious surface to an already-developed site, must prepare and implement Water Quality Management Plans (WQMPs) specifying Best Management Practices for minimizing stormwater pollution pursuant to the DAMP and the City’s LIP.

Existing Conditions

Watershed

The City and SOI are in the Los Alamitos/East Garden Grove/Bolsa Chica Watershed, which spans the south half of the west end of Orange County. The overall direction of drainage in the watershed is southwest toward Bolsa Bay, Huntington Harbor, and Anaheim Bay. The three primary drainage channels in
the watershed are, from west to east, the Bolsa Chica Channel, Anaheim-Barber City Channel, and East Garden Grove Wintersburg Channel.

**Drainage Facilities**

Drainage facilities in Los Alamitos and Rossmoor consist of storm drains owned by the City—and in Rossmoor by the county—and drainage channels and storm drains owned by the OCFCD and maintained by OC Public Works. These agencies maintain flood control facilities to prevent or minimize loss of life and property caused by flooding.

**Local Drainage Patterns**

Local drainage patterns and facilities consist primarily of surface runoff intercepted by open channels and underground pipe systems. The City maintains the following facilities.

- **Streets.** Streets are the primary facility for conveying stormwater on City-owned land. The majority of streets were constructed in the 1950s and 1960s, when a slope from 0.15 to 0.25 percent was considered adequate. Most city streets are inadequately sloped to convey runoff in compliance with current drainage standards (minimum slope of 0.50 percent).

- **City Storm Drain and Open Channel Facilities.** City streets also route stormwater runoff to catch basins that lead to storm drains or open channels. Approximately 80 catch basins throughout the City’s two-square-mile watershed intercept most of the local runoff for storm drain and open channel facilities. Since most of the catch basins and storm drain systems were constructed in the 1950s and ‘60s, and they do not meet current design standards for conveyance of the 10-, 25-, and 100-year storm events. Additionally, the number of catch basins is inadequate based on current standards, which require storm drain interception for every 1,000 feet of cumulative roadway length. Significant local storm drain facilities owned and maintained by the City include:
  - Rossmoor Highlands open channel (with east to west drainage).
  - Katella Avenue drain (a regional drain with east to west drainage).
  - Cerritos Avenue drain (east to west drainage).

- **Pump Station.** The City owns and maintains a pump station at the cul-de-sac of Fenley Drive in the College Park North area. The facilities are for the purpose of pumping local stormwater in areas that are geographically depressed that prohibit gravity flow designed systems.

**OCFCD/Orange County Public Works**

Flood control facilities in Rossmoor are the responsibility of the OCFCD, which are maintained by the Orange County Public Works Department.

- **Streets.** The majority of streets in Rossmoor were also constructed based on standards from the 1950s and ‘60s and are inadequately sloped to convey runoff in efficiently enough to comply with current drainage standards.
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

- **County Storm Drain and Open Channel Facilities.** The following drainage channels and storm drains are part of OCFCD’s regional flood control system (see Figure 5.12-3, *Stormwater Plan*).
  
  - **Carbon Creek Channel (OCFCD Facility B01)** extends east–west through the north end of the City, discharging into Coyote Creek Channel near the western City boundary. In the City, Carbon Creek is a concrete trapezoidal channel 17 feet deep with base widths ranging from 28 to 33 feet.
  
  - **Los Alamitos Channel (OCFCD Facility C01)** extends north–south near the western City boundary and just east of Coyote Creek Channel and the San Gabriel River. Los Alamitos Channel discharges into the Los Alamitos Retarding Basin in the City of Seal Beach south of Westminster Avenue and west of Seal Beach Boulevard. The Los Alamitos Retarding Basin discharges into the San Gabriel River via storm drain pipes. All of the channels in the City and Rossmoor listed below discharge into Los Alamitos Channel. Immediately north of 7th Street (State Route 22) in the City of Long Beach, Los Alamitos Channel is a concrete trapezoidal channel that is 14 feet high with an 11.5-foot-wide base.
  
  - **Rossmoor Storm Channel (OCFCD Facilities C01S01–04)**, a trapezoidal concrete channel that is 5.5 feet high with a 5-foot-wide base, extends east to west from the northeast part of the Joint Forces Training Base to Los Alamitos Channel in Rossmoor near Coleridge Drive.
  
  - **Katella Storm Channel (OCFCD Facility C01S05)** is a reinforced concrete box storm drain, 12 feet wide by 8 feet high, in Katella Avenue from Los Alamitos Boulevard west to the Los Alamitos Channel.
  
  - **Bloomfield Storm Channel (OCFCD Facility C01P02)** is a 72-inch reinforced concrete pipe that ties directly into the City storm drain system in Katella Ave and ultimately ties into the OCFCD Katella facility (OCFCD 2007a; OCFCD 2007b; OCFCD 2007c).

**Multi-Jurisdictional Facilities**

The City and Rossmoor are also served by a larger, multi-jurisdictional regional flood control network that discharges the majority of its stormwater runoff into the San Gabriel River. The Los Angeles County Flood Control District, through the Los Angeles County Department of Public Works, maintains the San Gabriel River and Coyote Creek flood control facilities adjacent to the City and Rossmoor.

**Flood Zones**

The following waterways in the City and SOI are mapped as 100-year flood zones by the Federal Emergency Management Agency (FEMA):

- Coyote Creek Channel along the northwest City boundary
- Los Alamitos Channel in the southwest part of the City (west of Rossmoor)
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEM

- Bixby Storm Channel, a tributary of the Montecito Storm Channel, along the south boundary of Rossmoor.

As shown in Figure 5.12-4, Flood Zones, portions of the northeastern part of the City are mapped as 500-year flood zones by FEMA (FEMA 2013).

5.12.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-3 Would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.12.3.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.12-3: New development under the General Plan Update would be required to ensure that the storm drainage systems would retain any increase in stormwater flow onsite and would be adequate to serve the drainage requirements of the proposed project. [Threshold U-3]

Impact Analysis: The General Plan Update would involve land use intensification on a handful of parcels, which could increase stormwater flow to the City's drainage system.

Localized flooding has occurred at several locations throughout the city, including areas along Portal Drive, Cherry Street, and Serpentine Drive; at low points along Katella Avenue; and along Kempton Drive in the southern portion of the City. This flooding is due primarily to streets with limited slope and an insufficient number of catch basins and inlets. In addition, a significant portion of the existing storm drain system was designed and implemented under older, less stringent flood control design standards. Recent storms have resulted in minimal damage to property and no loss of life, indicating that the existing system provides a minimal level of protection. To upgrade the entire system to the current design standards is cost prohibitive, and improvements made after 1996 have incorporated the updated design standards and would continue to be implemented with the following County of Orange design standards. The General Plan Update includes the following policies to ensure that no significant impacts would occur:

Public Facilities and Safety Element

- Policy 1.3 Stormwater drainage - Coordinate with regional flood control agencies to protect residents and businesses from flood hazards, upgrading existing facilities to current standards whenever financially feasible.

- Policy 1.4 New development - New development shall pay its fair share of public facility and infrastructure improvements.
5. Environmental Analysis

UTILITIES AND SERVICE SYSTEMS

Incremental intensification could occur through small projects (e.g., adding a second dwelling unit or expanding a storefront) in some other locations in the City. The net increases in impervious areas and runoff would be minor compared to the total existing impervious area and amount of runoff. General Plan Update buildout could require replacement of undersized storm drain inlets in a few locations near parcels where land use would be substantially intensified. Replacement storm drain inlets would be installed in the sides of roadways or in parking lots. In addition, new development would be required to retain the increase in stormwater flows onsite to ensure that there would be no net increase in stormwater flows to the City's existing drainage system. No significant impact would occur.

5.12.3.4 APPLICABLE GENERAL PLAN POLICIES IMPACTS

Open Space, Recreation, and Conservation Element

- **Policy 4.7 Stormwater pollution** - Minimize non-point source pollutants and stormwater runoff.

- **Policy 4.8 Stormwater management** - Encourage the use of low impact development techniques that retain or mimic natural features for stormwater management.

Public Facilities and Safety Element

- **Policy 1.3 Stormwater drainage** - Coordinate with regional flood control agencies to protect residents and businesses from flood hazards, upgrading existing facilities to current standards whenever financially feasible.

- **Policy 1.4 New development** - New development shall pay its fair share of public facility and infrastructure improvements.

- **Policy 3.1 Flood zone** - Ensure that flood control facilities continue to be designed and maintained so that no land is in a 100-year flood zone [Exception is provided for the JFTB, which is on federal land and within an undetermined risk area.]

5.12.3.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

5.12.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.12-3 would be less than significant.

5.12.3.7 MITIGATION MEASURES

No mitigation measures are required.

5.12.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.
5. Environmental Analysis

Figure 5.12-3 Stormwater Plan

- OCFD Facility
- Local Facility
- Flood Control Basin
- City Boundary
- Sphere of Influence
- Other City Boundaries

Source: City of Los Alamitos, 2013
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

This page intentionally left blank.
5. Environmental Analysis

Figure 5.12-4 Flood Zones

- City Boundary
- Sphere of Influence
- Other City Boundaries
- 100 Year Flood Zone
- Undetermined Risk Area

Source: FEMA, 2014

Date: 8/5/2014
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

This page intentionally left blank.
5.12.4 Solid Waste

5.12.4.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California Integrated Waste Management Act

California’s Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020; and requires recycling of waste from commercial and multifamily residential land uses.

California Solid Waste Reuse and Recycling Act of 1991

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

California Green Building Standards Code

Section 5.408 of the 2013 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11) requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

City of Los Alamitos Municipal Code

Section 17.16.110 describes development standards for solid waste and recyclable materials storage areas in new development projects. Chapter 8.12, Integrated Waste Management, sets requirements governing storage and collection of solid waste and recyclable materials.
Existing Conditions

Solid Waste Collection

Consolidated Disposal collects solid waste in Los Alamitos under contract with the City. In 2012, the latest year for which data are available, 16,004 tons of solid waste and 827 tons of alternative daily cover from the City were landfilled (CalRecycle 2014a).

Landfills

In 2012 about 95 percent of the solid waste landfilled from the City of Los Alamitos was disposed of at the Frank R. Bowerman Sanitary Landfill in the City of Irvine and the Olinda Alpha Sanitary Landfill near the City of Brea; both facilities are operated by OC Waste and Recycling. The two landfills are described in Table 5.12-4, OC Waste and Recycling Landfill Capacities.

<table>
<thead>
<tr>
<th>Landfill</th>
<th>Location</th>
<th>Remaining Capacity (cubic yards)</th>
<th>Estimated Closure Date</th>
<th>Maximum Daily Permitted Tonnage</th>
<th>Actual Average Daily Disposal, tons²</th>
<th>Residual Disposal Capacity, tons per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank R. Bowerman</td>
<td>11002 Bee Canyon Access Road Irvine, CA 92602</td>
<td>205,000,000</td>
<td>2053</td>
<td>11,500</td>
<td>4,827</td>
<td>6,673</td>
</tr>
<tr>
<td>Olinda Alpha</td>
<td>1942 North Valencia Avenue Brea, CA 92823</td>
<td>38,578,383</td>
<td>2021</td>
<td>8,000</td>
<td>5,210</td>
<td>2,790</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>243,578,383</td>
<td>Not Applicable</td>
<td>19,500</td>
<td>10,037</td>
<td>9,463</td>
</tr>
</tbody>
</table>

Sources: CalRecycle 2014b; CalRecycle 2014c; CalRecycle 2014d

1 Remaining capacity as of June 30, 2013.

2 Average daily disposal is calculated from total annual disposal in 2012; each landfill is open six days per week (assumed to be 300 days per year after deducting holidays).

Both landfills are required to comply with existing landfill regulations from federal, state, and local regulatory agencies. They are subject to regular inspections from CalRecycle and the Local Enforcement Agency, the RWQCB, and the South Coast Air Quality Management District.

Solid Waste Diversion and Recycling

There are 32 solid-waste diversion programs in the City of Los Alamitos, including those for composting, household hazardous waste collection, public education programs, recycling, source reduction at businesses and schools, and special waste materials such as tires and concrete/asphalt/rubble (CalRecycle 2014e).

Compliance with the diversion requirement in AB 939 is measured in part by comparing actual disposal rates with target disposal rates; disposal rates at or below target rates are consistent with AB 939. For 2012, the

2 Alternative daily cover means cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging.
5. Environmental Analysis

UTILITIES AND SERVICE SYSTEM

latest year for which data are available, the target disposal rates for Los Alamitos were 10.8 pounds per day (ppd) per resident, and 9.3 ppd per employee. Actual disposal rates in 2012—4.7 ppd per resident and 4.0 ppd per employee—were below target rates and thus were consistent with AB 939 (CalRecycle 2014e).

5.12.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-6 Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

U-7 Would not comply with federal, state, and local statutes and regulations related to solid waste.

5.12.4.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.12-4: The General Plan Update would result in an increase in 3,723 tons per year of solid waste disposal; however, solid waste haulers and landfills would be able to accommodate project-generated solid waste while complying with related solid waste regulations. [Thresholds U-6 and U-7]

Impact Analysis: As shown below in Table 5.12-5, Forecast Net Increase in Solid Waste Generation, the General Plan Update would result in an increase of 3,723 tons per year (approximately 10.2 tons per day).

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Existing (2013) Disposal (Tons/Year)</th>
<th>General Plan Buildout Disposal (Tons/Year)</th>
<th>Increase (Tons/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>City</td>
<td>Rossmoor</td>
<td>City + Rossmoor</td>
</tr>
<tr>
<td>Waste Generation</td>
<td>17,580</td>
<td>7,285</td>
<td>24,865</td>
</tr>
<tr>
<td>Alternative Daily Cover (ADC)</td>
<td>944</td>
<td>391</td>
<td>1,335</td>
</tr>
<tr>
<td>Total Waste Disposal</td>
<td>18,524</td>
<td>7,676</td>
<td>26,200</td>
</tr>
</tbody>
</table>

Source: CalRecycle 2014.
Notes:
Existing is waste disposal is based on an average 2010-2012 disposal rates identified by CalRecycle for the City of Los Alamitos and adjusted for the service population (residents plus employees) in Rossmoor. The increase in waste disposal is estimated based on the increase waste disposal for the additional service population. Estimated solid waste generation per service population is 0.69 tons per year, that is, 3.8 pounds per day. Estimated alternative daily cover generation per service population is 0.04 tons per year, i.e., 0.2 pound per day.

The two landfills accepting the great majority of landfilled solid waste from Los Alamitos have total remaining capacity of over 243,500,000 cubic yards—over 182,600,000 tons—and combined residual daily disposal capacity of over 9,400 tons per day. The estimated closing dates of the landfills are 2053 and 2021. The County of Orange is required to maintain 15 years’ identified disposal capacity, or have a plan to
5. Environmental Analysis

UTILITIES AND SERVICE SYSTEMS

transform or divert its waste, pursuant to AB 939. Thus, while General Plan buildout could occur after 2053, the county would be required to have 15 years’ identified disposal capacity after that date. There is adequate landfill capacity in the region for solid waste that would be generated by the General Plan Update buildout, and impacts would be less than significant.

Impacts on Regulations Governing Solid Waste Disposal

New development projects approved by the City of Los Alamitos pursuant to the General Plan Update would contain storage areas for recyclable materials in conformance with City Municipal Code Section 17.16.110 and California Public Resources Code Sections 42900 et seq. Solid waste diversion programs in the City would continue operating.

5.12.4.4 APPLICABLE GENERAL PLAN POLICIES

Public Facilities and Safety Element

- **Policy 1.5 Waste management** - A waste management system that meets or exceeds state recycling and waste diversion mandates while providing cost-effective disposal of waste for residents, businesses, and the City.

5.12.4.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

State

- California Public Resources Code 40050 et seq.: Integrated Solid Waste Management Act of 1989
- California Public Resources Code Sections 42900 et seq.: California Solid Waste Reuse and Recycling Access Act
- Assembly Bill 341 (Chapter 476, Statutes of 2011)
  - Title 24, California Code of Regulations, Part 11 (California Green Building Standards Code), Section 5.408

5.12.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.12-4 would be less than significant.

5.12.4.7 MITIGATION MEASURES

No mitigation measures are required.

5.12.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.
5.12.5 Other Utilities

5.12.5.1 ENVIRONMENTAL SETTING

Regulatory Background

California Energy Commission (CEC)

The CEC was created as the state’s principal energy planning organization in 1974, in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- forecasting statewide electricity needs;
- licensing power plants to meet those needs;
- promoting energy conservation and efficiency measures;
- developing renewable energy resources and alternative energy technologies;
- promoting research, development and demonstration
- planning for and directing the state’s response to energy emergencies.

Title 24, California Code of Regulations, Part 6: Energy Efficiency Standards for Buildings

Title 24 was first established in 1978, in response to a legislative mandate to reduce California’s energy consumption. Since that time, Title 24 has been updated periodically to allow for consideration and possible incorporation of new energy-efficiency technologies and methods.

Title 20, California Code of Regulations, Sections 1601 et seq: Appliance Efficiency Regulations

The 2012 Appliance Efficiency Regulations took effect on February 13, 2013. The regulations include standards for both federally and nonfederally regulated appliances.


The California Public Utilities Commission regulates investor-owned electric power and natural gas utility companies in the State of California. AB 1890, enacted in 1996, deregulated the power generation industry, allowing customers to purchase electricity on the open market. Under deregulation, the production and distribution of power that was under the control of investor-owned utilities (e.g. Southern California Edison) was decoupled. All new construction in California is subject to the energy conservation standards set forth in Title 24, Part 6, Article 2 of the California Administrative Code. These are prescriptive standards that establish maximum energy consumption levels for the heating and cooling of new buildings. The use of alternative energy applications in development projects (including the Proposed Project), while encouraged, is not required as a development condition. Such applications may include installation of photovoltaic solar panels, active solar water heating systems, or integrated pool deck water heating systems, all of which serve to displace consumption of conventional energy sources (i.e. electricity and natural gas). Incentives, primarily in the form of state and federal tax credits, as well as reduced energy bills, provide a favorable basis.
5. Environmental Analysis
UTILITIES AND SERVICE SYSTEMS

Existing Conditions

Electricity

Southern California Edison (SCE) provides electricity to Los Alamitos and Rossmoor. Total electricity demands in SCE’s service area are forecast to increase from 99,224 gigawatt-hours per year (GWh/yr) in 2011 to 109,888 GWh/yr in 2020 (CEC 2012); one GWh is equivalent to one million kilowatt-hours. In 2013, the most recent year for which data are available, 21.6 percent of SCE’s electricity was generated by renewable sources (CPUC 2014). SCE’s renewable inventory is primarily from geothermal and wind power. In 2012, SCE’s energy portfolio included 7 percent from coal, 4 percent from large hydroelectric, 21 percent from natural gas, 7 percent from nuclear, and 41 percent from unspecified sources (SCE 2013).

Electric Generating Capacity in California

In 2011 about 200,000 GWh of electricity were generated in California by government agencies, utilities, and commercial generators. Net imports of electricity into the state in 2011 amounted to approximately 85,000 GWh (CEC 2013).

The California Public Utilities Commission has approved contracts for roughly 7,700 megawatts (MW) of in-state central-station renewable generation facilities that are not yet operational; though some have begun construction, many have not. Some of these contracted facilities are not expected to be completed. California Governor Edmund Brown’s office has set an overall target of 12,000 MW of renewable distributed generation by 2020. Existing programs, including rooftop solar, the Renewable Auction Mechanism, and the Solar Photovoltaic Program, have targets totaling 9,000 MW, meaning that programs totaling 3,000 MW would need to be developed. Some 3,000 MW of this 12,000 are operational (Vidaver 2013), and 2,030 MW of gas-fired generation is under construction as of May 2013 (Vidaver 2013).

Existing Electricity Demand in Los Alamitos

Existing electricity demand in the City of Los Alamitos was provided by SCE for 2013 and 2012. Average annual aggregated electricity demand for all uses in the City of Los Alamitos during this period is approximately 142.1 million kilowatt-hours per year (kWh/yr).

Natural Gas

The Southern California Gas Company (SoCal Gas) supplies natural gas to the City and Rossmoor. Total natural gas supplies available to SoCal Gas are forecast to remain constant at 38.8 million therms per day (3,875 million cubic feet per day) from 2015 through 2030 (CGEU 2012). SoCal Gas obtains its natural gas supplies from the United States and Canada.

Existing natural gas demand in Los Alamitos over the three-year period 2011 through 2013, provided by SoCal Gas, averaged approximately 2.9 million therms per year.
5.12.5.2 THRESHOLDS OF SIGNIFICANCE

Although not specifically in Appendix G of the CEQA Guidelines, the following additional threshold is also addressed in the impact analysis: a project would normally have a significant effect on the environment if the project:

U-8 Would increase demand for other public services or utilities. According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

5.12.5.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.12-5: The General Plan Update would result in an increase in natural gas use and electricity use; however, additional demand would be accommodated by Southern California Edison and the Southern California Gas Company. [Threshold U-8]

Impact Analysis:

Electricity

The General Plan Update buildout is estimated to result in an increase in electricity use of approximately 33.1 million kilowatt hours per year in the City and Rossmoor, shown below in Table 5.12-6, Los Alamitos Estimated Electricity Demand. SCE is forecast to have adequate electricity supplies to meet demands resulting from General Plan Update buildout. Buildout of the General Plan Update would not require SCE to obtain additional electricity supplies beyond its currently forecast supplies.

<table>
<thead>
<tr>
<th>Table 5.12-6 Los Alamitos Estimated Electricity Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Electricity Demand (kWh/year)</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Residential Electricity Use</td>
</tr>
<tr>
<td>Nonresidential Electricity Use</td>
</tr>
<tr>
<td>Total Electricity Use</td>
</tr>
</tbody>
</table>

Notes: kWh = kilowatt hour

1 Based on average annual electricity for residential land uses in the City, 6,986 kWh/ unit, provided by SCE for 2013 and 2012. Projected based on increase in housing units.

2 Based on average annual electricity for non-residential land uses in the City, 7,796 kWh/ employee, provided by SCE for 2013 and 2012. Projected based on increase in employment.
Natural Gas

The General Plan Update buildout is estimated to result in an increase in natural gas use in the City and Rossmoor of approximately 569,928 therms per year, shown below in Table 5.12-7, *Los Alamitos Estimated Natural Gas Demand*. Existing SoCal Gas supplies are vastly greater than the forecast net increase in natural gas demands resulting from General Plan Update buildout. SoCalGas would have sufficient natural gas supplies to meet the net increase in natural gas demands due to General Plan Update buildout, and impacts would be less than significant.

<table>
<thead>
<tr>
<th>Table 5.12-7 Los Alamitos Estimated Natural Gas Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Natural Gas Demand (therms/year)</strong></td>
</tr>
<tr>
<td>City</td>
</tr>
<tr>
<td>Residential Natural Gas Use</td>
</tr>
<tr>
<td>Nonresidential Natural Gas Use</td>
</tr>
<tr>
<td>Total Natural Gas Use</td>
</tr>
</tbody>
</table>

Notes:
1. Based on average annual natural gas use for residential land uses in the City, 318 therms/unit, provided by SoCalGas for 2013, 2012, and 2011. Projected based on increase in housing units.
2. Based on average annual natural gas use for non-residential land uses in the City, 106 therms/employee, provided by SoCalGas for 2013, 2012, and 2011. Projected based on increase in employment.

5.12.5.4 APPLICABLE GENERAL PLAN UPDATE POLICIES

Open Space, Recreation, and Conservation Element

- **Policy 4.5 Energy and water conservation** - Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the City’s zoning ordinance and the California Building Code.

- **Policy 4.9 Renewable Energy** - Promote the use of renewable energy sources to serve public and private sector development.

5.12.5.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

State

- Title 24, California Code of Regulations, Part 6: Energy Efficiency Standards for Buildings
- Title 20, California Code of Regulations, Sections 1601 et seq.: Appliance Efficiency Regulations
5.12.5.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.12-6 would be less than significant.

5.12.5.7 MITIGATION MEASURES

No mitigation measures are required.

5.12.5.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.12.6 References


———. 2014b, May 29. Facility/Site Summary Details: Frank R. Bowerman Sanitary L.F.


———. 2014d, May 29. Landfill Tonnage Reports.
http://www.calrecycle.ca.gov/SWFacilities/Landfills/Tonnages/.


5. Environmental Analysis

UTILITIES AND SERVICE SYSTEMS


https://www.sce.com/wps/wcm/connect/16eadc87-3e6b-4610-8929-1178a2d66a03/2012_PowerContentLabel.pdf?MOD=AJPERES.


http://apps1.eere.energy.gov/states/residential.cfm/state=CA.

This page intentionally left blank.