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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### O. UTILITIES AND SERVICE SYSTEMS

#### 1. WASTEWATER

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#### ENVIRONMENTAL SETTING

##### Existing Site Wastewater Generation

Based on Table M.2-12, Sewage Generation Factors, of the 2006 LA CEQA Thresholds Guide, the existing Verdugo Hills Golf Course and Driving Range generates approximately 772 gallons of sewage each day.

##### Wastewater Conveyance

The City of Los Angeles Department of Public Works Bureau of Sanitation (LABS) provides sewer conveyance infrastructure and wastewater treatment services to the project area. The existing sewer lines nearest the project site include the existing 10-inch pipe in Tujunga Canyon Boulevard and 12-inch pipe in Honolulu Avenue. The sewage from the existing 10-inch line flows to the 12-inch line, then to a 15-inch line in Honolulu Avenue before discharging to City of Glendale pipes. The current flow level (d/D) in the 10-inch cannot be determined as gauging information for these lines is not available. The current flow level (d/D) in the 12-inch line is approximately 38% full and the 15-inch line is approximately 20% full. The design capacities at d/D of 50% are as follows:

- 10-inch line is 1.7 million gallons per day (gpd),
- 12-inch line is 1.8 million gpd, and
- 15-inch line is 1.5 million gpd.<sup>1</sup>

##### Wastewater Treatment

The project site is located in the East Valley Tributary Area, and is a tributary to the L.A.-Glendale Water Reclamation Plant (LAGWRP). The LAGWRP is part of the Hyperion Treatment System. Wastewater flowing from the East Valley Tributary flows through the LAGWRP and then to the HTP. The LAGWRP treats 90 percent of the East Valley Tributary's wastewater and then sends the remaining 10 percent to the Hyperion Treatment Plant for treatment. The LAGWRP removes solids and disinfects the wastewater to the purity standards set forth in Title 22 of the California Code of Regulations. The

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<sup>1</sup> Written correspondence with Brent Lorscheider, Acting Division Manager, City of Los Angeles Department of Public Works, Bureau of Sanitation, January 23, 2008.

disinfected wastewater is then discharged into the Los Angeles River. The City has planned increases in the LAGWRD capacity by the year 2010, from 20 million gallons per day (mgd) to 50 mgd.<sup>2</sup>

The Hyperion Treatment Plant (HTP), located west of the Los Angeles International Airport in Playa Del Rey, provides treatment capacity for wastewater flows generated in the project area. In December of 1998, the HTP was upgraded to provide full secondary treatment for all influent based on an average dry weather flow of 450 million gallons per day (mgd). The HTP currently processes average wastewater flows of approximately 350-375 mgd to primary and secondary treatment standards, using three levels of filtration treatment before discharging the treated wastewater five miles offshore.<sup>3</sup> Using the conservative upper average, the remaining capacity of the HTP is approximately 75 mgd or 17 percent of its total capacity. The average daily flow has gone down from a high of 413 mgd in 2006 due to some of the processing being diverted to the Donald C. Tillman Water Reclamation Plant. The project site is located in an area that is served by existing wastewater infrastructure supplied by the LABS in the immediate project vicinity.

The Hyperion Service Area (HSA) encompasses approximately 328,000 acres, or approximately 515 square miles, of the greater Los Angeles area. The HSA also serves 53,000 acres outside the jurisdiction of the City of Los Angeles on a contract basis. The HSA includes approximately 96 percent of the total area served by LABS.

## **Regulatory Framework**

### ***Wastewater Facilities Plan/Integrated Resources Plan***

The City's wastewater system is subject to Section 201 of the federal Clean Water Act (CWA). The CWA requires that the City adopt a facilities plan in accordance with the U.S. Environmental Protection Agency (EPA) Rules and Regulations, 40 CFR, Section 35.917, which provides:

*Facilities planning will demonstrate the need for the proposed facilities. Through a systematic evaluation of feasible alternatives, it will also demonstrate that the selected alternative is cost-effective, i.e., is the most economical means of meeting established effluent and water quality goals while recognizing environmental and social considerations.<sup>4</sup>*

The City prepared a Wastewater Facilities Plan (WFP) in 1982 and updated it in 1991. The 1991 WFP update planned for facilities through the year 2010 and currently regulates wastewater facilities in the

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<sup>2</sup> *The Framework Element of the Los Angeles General Plan, [www.lacity.org/pln/frmwrk/fwhome0.htm](http://www.lacity.org/pln/frmwrk/fwhome0.htm), February 10, 2003.*

<sup>3</sup> *Telephone conversation with Jordan Simplong, Superintendent, Hyperion Treatment Plant, March 14, 2008.*

<sup>4</sup> *40 C.F.R. 35.917(b). See City of Los Angeles Integrated Resources Plan Facilities Plan, Volume 1, July 2004, Revised November 2005, p. 3-1.*

City. The WFP is focused primarily on developing cost-effective construction improvements and analyzes wastewater, water recycling, and stormwater services in the City.<sup>5</sup> In 1999, the City began an overhaul of the WFP to address the interrelationships between all of its wastewater services and stakeholder needs, creating a new plan called the Integrated Resources Plan (IRP). The IRP addresses the City's wastewater needs through 2020 and consists of a Facilities Plan, a Financial Plan, and an EIR for the program. The IRP was published in July 2004 (revised November 2005) and the EIR, not yet certified, was circulated for public review in December 2005.<sup>6</sup>

The IRP documents the development, evaluation, and identification of four integrated alternatives that would meet the future wastewater system, recycled water system, and runoff system needs of the City of Los Angeles in the year 2020. These alternatives include an expansion of the Hyperion Treatment Plant, an expansion of both the Donald C. Tillman Water Reclamation Plant and the Los Angeles-Glendale Water Reclamation Plant, and two different expansion options for just the Tillman Plant. The IRP Draft EIR maintains the same objectives for all of its alternatives, which include, but are not limited to: meeting the projected wastewater system needs of the City; complying with all regulations protecting public health and the environment; conforming to the sustainability guidelines of the City; providing for safe use of recycled water; and providing cost-effective services. In developing the alternatives, the City also allowed for application of various criteria to accommodate changes and unanticipated conditions that could be encountered during implementation of the selected alternative.<sup>7</sup>

### ***Wastewater System Facilities***

Over 6,500 miles of sewer lines convey wastewater to the City's four wastewater treatment plants. Approximately 550 mgd flows through the system, which is regulated by federal and local entities.<sup>8</sup> The Los Angeles Regional Water Quality Control Board (RWQCB) enforces Section 122.41(m) of Part 40 of the Code of Federal Regulations, which prohibits the bypassing of treatment facilities and sanitary sewer overflows.<sup>9</sup> In addition to the Code of Federal Regulations, the sewer conveyance system is subject to regulation by the South Coast Air Quality Management District (SCAQMD), which responds to complaints regarding nuisance odors.

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<sup>5</sup> City of Los Angeles Department of Public Works Bureau of Sanitation, *Integrated Resources Program*, website: [http://www.lacity.org/san/irp/About\\_IRP.htm](http://www.lacity.org/san/irp/About_IRP.htm), February 2, 2006.

<sup>6</sup> Department of Public Works News, Bureau of Sanitation Releases Draft Environmental Impact Report for Wastewater System Upgrades, December 1, 2005.

<sup>7</sup> City of Los Angeles, *Integrated Resources Plan Draft Environmental Impact Report SCH No. 2004071091*, December 2005, p. 1-4.

<sup>8</sup> City of Los Angeles, *LA Sewers*, website: <http://www.lasewers.org/sewers/about/index.htm>, January 28, 2008.

<sup>9</sup> City of Los Angeles, *Integrated Resources Plan Facilities Plan, Volume 1, July 2004, Revised November 2005*, p. 3-24.

The 10-year LA Sewers Program also regulates maintenance and construction project schedules and is currently managing approximately 100 sewer infrastructure improvement projects.<sup>10</sup> The 10-year LA Sewers Program was put into place in order to carry out the mandates of the Collection System Settlement Agreement (CSSA), which has a compliance term of 10 years. The CSSA is a settlement agreement that was reached in 2004 to resolve a lawsuit brought against the City by the Santa Monica Baykeeper and other community organizations after a number of sanitary sewer overflows occurred in the City in February 1998. The CSSA requires the City to enhance, repair, and update the sewer system and sets specific timelines for the City to complete the upgrades. It also mandates that the City spend \$8.5 million in supplemental environmental enhancement projects.<sup>11</sup> Pursuant to the CSSA, the City prepares annual progress reports detailing its success at meeting the terms of the agreement. The third progress report, published in August 2007, indicates that the City is currently in full compliance with the CSSA and that the number of sanitary sewer overflows is declining.<sup>12</sup>

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a significant impact would occur if a project would:

- (a) Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- (b) Result in a determination by the wastewater treatment provider which serves or may serve the project, that it doesn't have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Furthermore, as set forth in the City of Los Angeles L.A. CEQA Thresholds Guide, a project would normally have a significant wastewater impact if:

- (a) The project would cause a measurable increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained; or
- (b) The project's additional wastewater flows would substantially or incrementally exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in the Wastewater Facilities Plan or General Plan and its elements.

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<sup>10</sup> City of Los Angeles Department of Public Works, *LA Sewers*, *op. cit.*

<sup>11</sup> City of Los Angeles, Department of Public Works, *Collection System Settlement Agreement 3<sup>rd</sup> Annual Progress Report Fiscal Year 2006/07* website: <http://www.lacity.org/san/lasewers/cssa/PDFs/AR3.pdf>, January 16, 2008.

<sup>12</sup> *Ibid*, Cover Letter, p. 1.

## Project Impacts

The project will build 229 homes of which 137 units will have four bedrooms and 92 units will have five bedrooms. The site is currently occupied by the Verdugo Hills Golf Course and related buildings, all of which will be removed (nine structures of approximately 9,650 total square feet). In order to comply with the City's water conservation and sewer allocation ordinances, the proposed project's new residences shall be equipped with water conservation devices (i.e., showerheads, toilets, faucets, etc.). The standard City sewage generation rate used to estimate the proposed project's future sewage generation reflects these latest water conservation measures.

The Los Angeles Regional Water Quality Control Board (LARWQCB) enforces wastewater treatment and discharge requirements for properties in the project area. The project site is not served by a private onsite wastewater treatment system, but instead conveys wastewater via municipal sewage infrastructure to the local treatment plant. Treatment plants in the City of Los Angeles are subject to the State's wastewater treatment requirements. Wastewater from the project site would therefore be treated according to the wastewater treatment requirements by the LARWQCB. Therefore, project impacts related to exceeding wastewater treatment requirements would be less than significant.

As indicated in Table IV.O-1 below, Proposed Project Wastewater Generation, the proposed project is estimated to generate a total of 74,798 gpd. This increase in wastewater would be less than significant for the reasons discussed below.

**Table IV.O-1  
Proposed Project Wastewater Generation**

Land Use	Size	Generation Rate <sup>a</sup>	Total Daily Wastewater Generation (gpd)
Single Family Home	229 du	330 gallons/du	75,570
Golf Course Facilities (removed)	-9,650 sf	80 gallons/1,000 sf	-772
<b>Proposed Project Total</b>			<b>74,798</b>
<i>Notes:</i> du=dwelling unit; sf = square feet <sup>a</sup> Source: Brent Lorscheider, Acting Division Manager, City of Los Angeles Department of Public Works, Bureau of Sanitation, January 23, 2008.			

The existing sewer lines in the immediate project vicinity would likely have the capacity to handle the wastewater generated from the proposed project, based on the estimated flow in the area.<sup>13</sup> The design capacities of the sewer lines are at most 38% full and would be able to accommodate approximately twice their current flow. Since there are existing sewer lines adjacent to and nearby the project site, likely with

<sup>13</sup> Brent Lorscheider, Acting Division Manager, City of Los Angeles Department of Public Works, Bureau of Sanitation, January 23, 2008.

sufficient capacity to handle the flows from the proposed project, no offsite sewer line improvements are anticipated, other than the proposed project's connection. The HTP has a remaining capacity of 75 mgd and the proposed project's flow of 74,798 gpd can be accommodated as this represents about 0.1 percent.<sup>14</sup> The proposed project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. Therefore, the proposed project's impact on sewer systems would be less than significant.

## CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Los Angeles consisting of approved, proposed, or potential projects in the project vicinity. The geographic context for this cumulative analysis entails the LABS service area. As the LABS service area encompasses all of metropolitan Los Angeles, all of the identified related projects are included in the following cumulative impacts discussion. Implementation of the proposed project in combination with the 28 related projects would increase the generation of wastewater in the project area. As shown in Table IV.O-2, Cumulative Wastewater Generation, the estimated wastewater generation by the related projects would be 134,668 gpd. The cumulative wastewater generation of the related projects in combination with the proposed project would be approximately 209,466 gpd. However, cumulative impacts are expected to be less than significant for the following reasons.

The 28 related projects are all located within the City of Los Angeles or County of Los Angeles and would be provided wastewater treatment services by the HTP. As previously discussed, the design capacity of the HTP is 450 mgd, and the HTP's current average wastewater flow is 375 mgd. Therefore, the HTP has a remaining capacity of approximately 75 mgd. The cumulative sewage generation would be well within the design capacity of the HTP, representing approximately 0.3 percent<sup>15</sup> of the remaining capacity. Future development projects within the service area of the Bureau of Sanitation would be subject to the locally mandated water conservation and sewer allocation programs. City-wide water conservation efforts would also be expected to partially offset the increased cumulative wastewater generation. Cumulative increases in wastewater generation would be within the excess treatment capacity currently available and projected to be available at HTP.<sup>16</sup> The proposed project represents about 1/3 of the total cumulative wastewater generation for the related projects. The proposed project would have an increase on the cumulative wastewater generation; however the LABS has stated that the sewer system could accommodate the proposed project. Therefore, the cumulative impact of the related projects in combination with the proposed project on wastewater facilities would be less than significant.

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<sup>14</sup>  $74,798 / 75 \text{ million} \times 100\% = 0.1\%$

<sup>15</sup>  $209,466 / 75 \text{ million} \times 100\% = 0.3$

<sup>16</sup> *Analysis conducted for the Citywide General Plan Framework indicates that there is no projected shortfall in wastewater treatment capacity in the City of Los Angeles in the foreseeable future, taking into account projected Citywide growth (General Plan Framework Draft EIR, p.5-18).*

**Table IV.O-2  
Cumulative Wastewater Generation**

No.	Land Use	Size	Generation Rate <sup>a</sup>	Total (gallons/day)
<b>City of Los Angeles</b>				
1	Shopping Center	26,500 sf	80 gallons/1,000 sf	2,120
	High-turnover Restaurant	10,250 sf	300 gallons/1,000 sf	3,075
2	Mini-Market Expansion	5,245 sf	80 gallons/1,000 sf	420
3	Single Family Residential	221 du	330 gallons/du	72,930
	Equestrian Park <sup>c</sup>	3 ac	0	0
4	Home Improvement Store	123,505 sf	80 gallons/1,000 sf	9,880
5	Condominium <sup>b</sup>	25 du	160 gallons/du	4,000
6	Condominium	7 du	160 gallons/du	1,120
7	Condominium	8 du	160 gallons/du	1,280
8	Condominium	12 du	160 gallons/du	1,920
9	Condominium	6 du	160 gallons/du	960
10	Condominium	8 du	160 gallons/du	1,280
11	Apartment	10 du	160 gallons/du	1,600
12	Condominium	11 du	160 gallons/du	1,760
13	Condominium	6 du	160 gallons/du	960
14	Condominium	6 du	160 gallons/du	960
15	Condominium	22 du	160 gallons/du	3,520
16	Condominium	26 du	160 gallons/du	4,160
17	Condominium	24 du	160 gallons/du	3,840
18	Condominium	10 du	160 gallons/du	1,600
19	Condominium	14 du	160 gallons/du	2,240
20	Condominium	10 du	160 gallons/du	1,600
21	Condominium	10 du	160 gallons/du	1,600
22	Single Family Residential	5 du	330 gallons/du	1,650
23	Condominium	11 du	160 gallons/du	1,760
24	Church	8,300 sf	200 gallons/1,000 sf	1,660
25	Condominium	9 du	160 gallons/du	1,440
26	Single Family Residential	10 du	330 gallons/du	3,300
<b>County of Los Angeles</b>				
27	Office	2,888 sf	150 gallons/1,000 sf	433
	Apartment	5 du	160 gallons/du	800
28	Condominium	5 du	160 gallons/du	800
<b>Related Projects Total</b>				<b>134,668</b>
<b>Proposed Project Total</b>				<b>74,798</b>
<b>Cumulative Total</b>				<b>209,466</b>
Notes: du=dwelling unit; sf=square feet, ac=acre				
<sup>a</sup> Source: City of Los Angeles, L.A. CEQA Thresholds Guide, Exhibit K.2-11, May 14, 1998.				
<sup>b</sup> Generation for residential uses was calculated using the 2-bedroom rate to present a conservative analysis.				
<sup>c</sup> No generation rates available, however any wastewater generation is expected to be minimal.				

## **MITIGATION MEASURES**

As no significant sewer impacts have been identified, no mitigation measures are required. However, in order to comply with the City's water conservation and sewer allocation ordinances, the proposed project's new homes shall be equipped with water conservation devices (i.e. showerheads, toilets, faucets, etc.). The standard City sewage generate rate used to estimate the proposed project's future sewage generation reflect these latest water conservation measures.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The proposed project's impact on sewer services would be less than significant.

**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**O. UTILITIES AND SERVICE SYSTEMS**  
**2. WATER SUPPLY**

**ENVIRONMENTAL SETTING**

**Existing Golf Course Water Consumption**

Based upon its water meter readings, water consumption at the Verdugo Hills Golf Course for the year 2007 was 19,900,540 gallons, or approximately 54,520 gallons per day.

**Table IV.O-3**  
**Current Verdugo Hills Golf Course Water Consumption**

	01-Water 50900217		02-Water 90163288		01-Water 90163288		Total HCF
			Large Dial		Small Dial		
	Read	HCF Used	Read	HCF Used	Read	HCF Used	
12/28/07	22403		16397		2487		
1/29/07	22678	275	16873	476	2612	125	876
2/27/07	22939	261	17236	363	2690	78	702
3/28/07	23181	242	18239	1003	2842	152	1397
4/26/07	23438	257	19674	1435	3045	203	1895
5/25/07	23688	250	22307	2633	3398	353	3236
6/26/07	23975	287	25561	3254	3745	347	3888
7/26/07	24264	289	28580	3019	4073	328	3636
8/24/07	24534	270	31834	3254	4393	320	3844
9/25/07	24817	283	34206	2372	4721	328	2983
10/25/07	25058	241	35384	1178	4939	218	1637
11/28/07	25341	283	37051	1667	5174	235	2185
12/28/07	25569	228	37125	74	5198	24	326
	<b>Total HCF</b>	3166		20728		2711	<b>26605</b>
	Gallons Used in 2007						19,900,540

*Source: Verdugo Hills Golf Course 2007 water meter records*  
*1 HCF = Hundred Cubic Feet = 748 gallons*

**Water Supply**

The City of Los Angeles Department of Water and Power (LADWP) is responsible for ensuring that water demand in the City is met and that State and federal water quality standards are achieved. For the fiscal year of 2006 (the most recently available data), City water supplies were derived from the following sources: (1) the Los Angeles Aqueduct, approximately 60 percent; (2) groundwater, approximately 10

percent; (3) purchases from the Metropolitan Water District (MWD), approximately 29 percent; and (4) recycled water (for industrial and irrigation purposes), approximately 1 percent.<sup>17</sup> The amount of water obtained from these sources varies from year to year, and is primarily dependent on weather conditions and demand. In addition, reclamation of wastewater is utilized for certain irrigation purposes. LADWP operates the Los Angeles-Owens River Aqueduct and is a member of the MWD.

LADWP had an available water supply of 634,988 acre-feet for the year 2006. The LADWP's 2005 Urban Water Management Plan (UWMP) serves as the City's master plan for water supply and resource management. The 2005 UWMP forecasts the available water supplies through the year 2030, which is projected to be 776,000 acre-feet.

### ***Los Angeles Aqueduct***

Water supplies from the Los Angeles Aqueduct originate from both snowmelt runoff and groundwater and can fluctuate yearly due to varying hydrologic conditions. Aqueduct supplies are primarily collected from snowmelt runoff from the Eastern Sierra Nevada Mountains, which is conveyed to the City of Los Angeles via the aqueduct. The City holds water rights in the Eastern Sierra Nevada. Aqueduct supplies come from groundwater pumping in the Owens Valley and Mono Basin. In recent years, aqueduct supplies have been less than normal due to environmental obligations to restore Mono Lake and mitigate dust from Owens Lake. LADWP's ability to export Mono Basin water is now tied directly to the elevation of Mono Lake and flows of various streams that are tributary to Mono Lake. As such, when Mono Lake reaches its target elevation, exports from the Mono Basin can increase from its current levels of 16,000 acre-feet per year.

### ***Groundwater***

LADWP extracts groundwater from various locations throughout the Owens Valley and four local groundwater basins: San Fernando, Sylmar, Central, and West Coast groundwater basins. As the LADWP owns extensive property in the Owens Valley, it appropriates groundwater for use in the Owens Valley and Los Angeles. The groundwater basins in Los Angeles County have been adjudicated, meaning that the groundwater supplies and quantities have been assigned by the courts to existing users. The San Fernando Basin, which consists of 112,000 acres of land and comprises 91.2 percent of the Upper Los Angeles River Area (ULARA) valley fill, is the largest of the four local basins. LADWP has accumulated nearly 320,000 acre-feet of stored water credit in the San Fernando Basin as of October 2005, which can be withdrawn from the basin during normal and dry years or in an emergency, in addition to LADWP's approximately 87,000 acre-feet annual entitlement in the basin. As such, the majority of LADWP's groundwater is extracted from the San Fernando Basin.

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<sup>17</sup> Los Angeles Department of Water and Power, website: <http://www.ladwp.com/ladwp/cms/ladwp000509.jsp>, January 28, 2008.

Sylmar Basin, located in the northern part of the ULARA, consists of 5,600 acres and comprises 4.6 percent of the ULARA valley fill. LADWP has an annual entitlement of 3,255 acre-feet from the Sylmar Basin. LADWP also has adjudicated rights to extract groundwater from the Central and West Coast Basins. Annual entitlements to the Central and West Coast Basins are 15,000 acre-feet and 1,503 acre-feet, respectively. Currently, LADWP does not exercise its pumping rights at the West Coast Basin due to localized water quality issues.

### ***Metropolitan Water District of Southern California***

The MWD is the largest water wholesaler for domestic and municipal uses in Southern California. MWD imports a portion of its water supplies from Northern California through the State Water Project's California Aqueduct and the Colorado River through MWD's own Colorado River Aqueduct. MWD's long-term plans to meet its member agencies' growing demands are through water transfer programs, outdoor conservation measures, and development of additional resources such as recycling, brackish water desalination, and seawater desalination. Additionally, MWD has more than 3.8 million acre-feet of storage capacity available in reservoirs and banking/transfer programs, with approximately 2.5 million acre-feet currently in that storage.

As one of 26 member agencies of MWD, the LADWP purchases water to supplement LADWP supplies from the aqueduct and local groundwater. LADWP will continue to rely on MWD to meet its current and future supplemental water needs. As of June 2005, LADWP has a preferential right to purchase 21.33 percent of MWD's total water supply. In addition, LADWP intends to work within MWD's Water Surplus and Drought Management Plan to acquire its drought supplies from MWD in the future.

The amount of water that MWD will be able to supply to Southern California in the near future is unclear given the recent federal court decision *Natural Resources Defense Council, et al. v. Kempthorne, et al.* In Spring 2007, various environmental groups sought to halt the operation of water pumps in the Sacramento-San Joaquin River Delta to protect the Delta smelt and other endangered fish species living in the Delta. In May 2007, a federal court invalidated the Biological Opinion issued by the U.S. Fish and Wildlife Service, which had held that the Delta smelt were in "no jeopardy" from operational changes of the State Water Project in the Delta. On May 31, 2007, the California Department of Water Resources voluntarily shut down State Water Project pumps for 17 days in an effort to protect the Delta smelt. In an August 2007 oral decision, the same federal court agreed to institute interim protective measures that restrict water operations in the Delta, including reducing the amount of water being pumped out of the Delta between the end of December and June. In December 2007, the federal court issued an interim remedial order, requiring the U.S. Fish and Wildlife Service to revise its Biological Opinion by September 15, 2008, and operations on various requirements. LADWP estimates that MWD may receive 20 to 30 percent less water from the State Water Project as a result of this interim remedial order. However, this remedial order sunsets in September 2008 at which time, a new Biological Opinion will govern operation of the Delta. At this time, it is not known how the future Biological Opinion will impact MWD's ability to supply water to Southern California.

At present, both the California state government and MWD are evaluating Delta operations and options to address Delta smelt impacts and other environmental concerns. The Governor's Delta Vision Process and the Bay-Delta Conservation Plan are both focused on finding and implementing long-term solutions for the Delta. MWD is also actively engaged in improving Delta water operations. In May 2007, MWD's Board adopting a Delta Action Plan as a framework to address water supply risks in the Delta both for near- and long-term. The near- and long-term actions outlined in the Delta Action Plan are intended to implement measures to reduce fishery and earth-quake relating risks, such as aggressive monitoring, ecosystem restoration, local water supply projects, and emergency preparedness and response plans.

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 Urban Water Management Plan. And Integrated Water Resources Plan to address water supply shortages and interruptions (including potential shut downs of State Water Project pumps) to meet water demands. Campaigns for voluntary conservation, curtailment of replenishment water and agricultural water delivery are some of the actions outlined in the Water Management Plan. If necessary, reduction in municipal and industrial water use and mandatory water allocation could be implemented.

### ***Water Conservation and Recycling***

In order to meet future water demands, water conservation and recycling will continue to play an important role. LADWP has implemented water conservation and recycling measures with efforts to further promote and increase the level of such programs. Thus, LADWP is committed to supply a higher percentage of the City's water demand through water conservation and recycling.

### **Water Demand**

The 2005 Urban Water Management Plan provides water supply and demand projections in five-year increments to 2030, based on projected population estimates provided by the Southern California Association of Governments (SCAG). Table IV.O-4, Water Demand Projections for 2000-2030 (Thousand AFY), shows the projected water demand from the year 2000 through 2030 for the City of Los Angeles. The yearly water demand for 2030 is anticipated to be 776,000 acre-feet (AF), an increase of 99,000 AF from 2000. Utilizing the current demand per capita provides a conservative estimate of projected future water demand to ensure that water supplies are available to meet projected demands. The LADWP anticipates adequate water supplies would be available to the service areas under normal, single-dry, and multiple-dry year conditions through 2030.

### **Water Storage**

Water storage is essential for LADWP to supply water during high demand conditions and for firefighting and emergencies. The City water system includes 110 tanks and reservoirs ranging in size from 10,000 to 60 billion gallons with a total capacity of 109 billion gallons. Water is distributed through a network of 7,200 miles of water mains ranging from 4 inches to 120 inches in diameter. Because of the size and

range in elevation, the system is divided into 102 pressure zones, with almost 90 booster pumping stations to provide water service at higher elevations.<sup>18</sup>

**Table IV.O-4**  
**Water Demand Projections for 2000-2030 (Thousand AF)**

<b>Water Use Sector</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Single-Family	240	231	237	239	250	260	262
Multi-Family	199	198	205	219	228	236	250
Commercial	112	119	126	130	134	137	140
Government	41	43	44	44	45	45	46
Industrial	24	20	19	19	19	19	19
Non-revenue	60	48	50	52	55	57	58
<b>Total</b>	<b>677</b>	<b>661</b>	<b>683</b>	<b>705</b>	<b>731</b>	<b>755</b>	<b>776</b>

*Note: 2000 represents actual year data (which was considered dry); 2005 through 2030 are projected based on normal weather conditions and with projected conservation.*

*Source: Los Angeles Department of Water and Power, 2005 Urban Water Management Plan.*

The City is also entitled to extract 108,100 acre-feet per year (35.7 billion gallons) from the San Fernando Basin as well as the Central and Sylmar groundwater basins. The San Fernando Basin holds a water reserve totaling 255,000 acre-feet (83.1 billion gallons) as of October 1999, and LADWP has the right to pump water from this reserve in the case of temporary interruption of water imports or in case of a drought that reduces production from the Los Angeles Aqueduct.

### **Local Lines**

The LADWP maintains an 8-inch water main in Tujunga Canyon Boulevard, which is capable of supplying approximately 2,500 gallons per minute. There are no other water mains in the area that would be expected to serve this project and no reclaimed water is available in the area. There are no known existing water service problems or deficiencies in the area. The project site currently consumes 36,000 cubic feet of water per month over the past three months. An adequate level of service would be a minimum static water pressure of 55 pounds per square inch (psi) at the highest building pad. The LADWP recommends the replacement of the existing 8-inch water main with a 12-inch to meet the expected 2,000 gallons per minute fire flow requirement by the Los Angeles Fire Department.<sup>19</sup>

<sup>18</sup> City of Los Angeles, L.A. CEQA Thresholds Guide, 2006.

<sup>19</sup> Written correspondence with Charles Holloway, Manager of Environmental Assessment, Los Angeles Department of Water and Power, March 26, 2008.

## **Treatment Plant**

The primary water treatment plant serving the general Los Angeles area, including the project site, is the Los Angeles Filtration Plant (LAFP). The LAFP has a design capacity of 600 mgd. The average plant flow is 450 mgd in non-summer months, and 550 mgd during summer months. The average over the year is 475 mgd. The remaining capacity of the LAFP is, therefore, approximately 125 mgd or 21 percent of its total capacity. According to LADWP, there are no plans for future water facility expansion at this time.

## **Regulatory Framework**

### **State**

#### ***Senate Bill 610 and Senate Bill 221***

State legislation addressing water supply includes Senate Bill (SB) 610 (Costa) and SB221 (Kuehl), both of which became effective January 1, 2002. SB 610, codified in the California Water Code, Section 10910 et seq., describes requirements for both water supply assessments and Urban Water Management Plans (UWMP) applicable to the CEQA process. SB 610 requires that for specified projects subject to CEQA, the urban water supplier must prepare a water supply assessment to determine whether the anticipated water demand associated with a proposed project is included as part of the most recently adopted UWMP. Specifically, a water supply assessment shall identify existing water supply entitlements, water rights, or water service contracts held by the public water system, and prior years' water deliveries received by the public water system. In addition, it must address water supplies over a 20-year period and consider average, dry, and multiple dry years. In accordance with SB 60 and Section 10912 of the California Water Code, such projects subject to CEQA requiring submittal of a water supply assessment include the following:

- Proposed residential developments of more than 500 dwelling units;
- Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- Hotels, motels, or both, having more than 500 rooms;
- Industrial, manufacturing, or processing 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
- A project that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

The water supply assessment 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 water supply assessment.

In addition, under SB 610, an urban 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.

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 specifically applies to residential subdivisions of 500 units or more. In addition, Government Code Section 66473.7(i) exempts "...any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the mediate contiguous properties surrounding the residential project are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households."

### ***California Urban Water Management Plan Act***

The California Urban Water Management Plan Act (CWC Division 6, Part 2.6, Section 10610 through 10656) addresses several state policies regarding water conservation and the development of water management plans to ensure the efficient use of available supplies. The Act also requires water suppliers to develop UWMPs 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 of water must adopt a UWMP.

### ***California Code of Regulations***

Title 20, Section 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. Accordingly, 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-federal regulated plumbing fittings, including commercial pre-rinse spray valves.

### ***Global Warming and Climate Change***

Global warming and climate change should be considered in assessing water supply in California. Potential impacts of climate change on California's water resources include changes in both water and air temperature, changes in precipitation patterns, and changes in sea levels that could increase pressure on Delta levees. The impact of climate change on California's water supply has already been the subject of study. California Department of Water Resources prepared a July 2006 report entitled "Progress on Incorporating Climate Change into Management of California's Water Resources," which found that climate change may have a significant effect on California's future water resources and demand. This report also examined the potential impacts of selected climate change scenarios on operations of the State Water Project and Central Valley Project, Delta water quality, flood management and evapotranspiration. Potential issues include a reduction of Sierra snow pack 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 through at least the end of this century, 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 (DSW report pg 2-54). Based on this information, global climate changes and their potential effects on California's water supply are too speculative at this time for further evaluation.

### **Local**

#### ***City of Los Angeles Ordinances Nos. 172,075 and 163,532***

The City of Los Angeles adopted several ordinances in an effort to reduce water consumption. Specifically, the City of Los Angeles Ordinance No. 172,075, adopted in 1998 (Chapter XII, Article II, of the LAMC) requires all building owners to install low-flow showerheads (with a maximum flow of 2.5 gpm), water closets (with a maximum flow of 3.5 gpm), and low flow urinals (with a maximum 1.5 gallons per flush) prior to obtaining building permits. City Ordinance No. 163,532 (Chapter XII, Article IV, of the LAMC) also requires a 10 percent reduction in irrigation for large turf areas (three acres of turf or greater).

#### ***2005 Urban Water Management Plan***

In accordance with the California Urban Water Management Planning Act, the LADWP has prepared an Updated Year 2005 UWMP. The UWMP details LADWP's efforts to promote the efficient use and management of its water resources. LADWP's UWMP used a service area-wide method in developing its water demand projections. This methodology does not rely on individual development demands to determine area-wide growth. Rather, the growth in water use for the entire service area was considered in developing long-term water projections for the City of Los Angeles through the year 2030.

In the next UWMP update (available in 2010), the LADWP will develop a revised demand forecast that will factor in the water demand for which all water supply assessments have been prepared in addition to future demands. This will also allow LADW to work collaboratively with its supplemental water suppliers, the MWD, to ensure the City's anticipated water demands are incorporated into MWD's long-term water resources development plan.

### ***Municipal Water Conservation***

In addition to State regulations, LADWP has instituted its own water conservation measures. As discussed in LADWP's 2005 Urban Water Management Plan (UWMP), water use in the City of Los Angeles is currently approximately equal to water use 20 years ago despite an over 750,000-person increase during this period.<sup>20</sup> This stability in water use is largely attributed to the City's public education campaigns and water conservation programs over the past 15 years. LADWP continues to develop cost-effective programs to achieve its multiple goals of demand reduction, customer service, and environmental responsibility. The conservation program falls under five categories: awareness/support, residential, commercial/industrial/institutional, landscape, and system maintenance measures.

- Awareness/Support Measures - Include full metering of water use, assessment of volumetric sewer charges, and a conservation rate structure. Passive components typically include providing educational materials for schools, community and customer presentations, maintaining a conservation hotline, and a wide range of information distributed through customer bills, advertising in public venues, LADWP's website, and direct mail.
- Residential - Include the ULF Toilet Distribution Program and free water saving showerheads, faucet aerators and replacement toilet flapper valves. In addition, the High Efficiency Washer Rebate Program was initiated in 1998 and pilot programs examining the effectiveness of weather sensitive irrigation controllers in residential applications are presently underway.
- Commercial/Industrial/Governmental – Include a commercial rebate program designed specifically for customers in the commercial/industrial/ institutional (CII) category. In addition, water use efficiency solutions are being developed for specific business sectors. The cornerstone of LADWP's efforts to maximize conservation in the CII sector is the Technical Assistance Program (TAP).
- Landscape – Include investing in landscape irrigation efficiency programs and projects. Pilot programs examining the effectiveness of weather sensitive irrigation controllers in residential applications are presently underway.
- System Maintenance - Maintaining system infrastructure reduces water waste and allows for greater water accountability. Infrastructure maintenance, such as pipeline replacement, cement-mortar lining, meter replacement, and others, are a high priority in LADWP's daily activities.

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<sup>20</sup> LADWP, 2005 Urban Water Management Plan, *op. cit.* p. ES-3.

- Conservation Pricing Structure – A tiered rate structure, first implemented in 1993, applies a lower tier block rate for responsible water use within a specified water amount, and a higher rate for every billing unit above this block. To further encourage water conservation, water charges are based solely on water used and do not include fixed charges.<sup>21</sup>

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a significant impact would occur if:

- (a) A project would require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause a significant environmental effect; or
- (b) If there were insufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded facilities were needed.

Furthermore, as set forth in the City of Los Angeles *L.A. CEQA Thresholds Guide*, the determination of significance shall be made on a case-by-case basis, considering the following factors:

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

### Project Impacts

The project will build 229 homes of which 137 units will have four bedrooms and 92 units will have five bedrooms. The site is currently occupied by the Verdugo Hills Golf Course and related buildings, all of which will be removed. In order to present a conservative analysis, water consumption is assumed to be 120 percent of the wastewater generated for a given land use. As indicated in Table IV.O-5 below, the proposed project would generate a net increased water demand of 36,164 gallons per day.

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<sup>21</sup> City of Los Angeles, Department of Water and Power, *Urban Water Management Plan, 2005*, page ES-6.

**Table IV.O-5  
Proposed Project Water Consumption**

Land Use	Size	Consumption Rate <sup>a</sup>	Total Water Consumption (gpd)
Single Family Home	229 du	396 gallons/du	90,684
Golf Course and Driving Range	N/A	54,520 gpd	-54,520
<b>Proposed Project Net Total</b>			<b>36,164</b>
<i>Notes:</i> <i>du=dwelling unit; sf=square feet</i> <sup>a</sup> <i>Source: City of Los Angeles, Draft L.A. CEQA Thresholds Guide, Exhibit K.2-11, May 14, 1998. Water consumption assumed to be 120% of wastewater generated for a given land use.</i>			

Due to statewide drought conditions, there is an ongoing need for water conservation. The LADWP recommends that water should be conserved at all times, because efficient use of water allows increased water for use in dry years and makes water available for beneficial environmental uses. As such, the proposed project proposes to comply with Title 24 requirements.

The LADWP has stated that water requirements for any project that is consistent with the City's General Plan have been taken into account in the planned growth in water demand and that sufficient supplies are available to accommodate the proposed project. Further, the LADWP has indicated in its Urban Water Management Plan that it will provide an adequate water supply to meet current and future growth until at least 2020.<sup>22</sup> Finally, the LADWP has stated that there are no known water service problems in the area and that the treatment plant could adequately handle the proposed project.<sup>23</sup> Therefore, impacts to water supply would be less than significant.

## CUMULATIVE IMPACTS

The related projects evaluated in this cumulative impacts analysis comprise the planned or projected development identified in the Related Projects list (see Table III-1). Implementation of the proposed project in combination with the 28 related projects would increase water demand. As shown in Table IV.O-6, Cumulative Water Consumption, the estimated water consumption by the related projects would be 160,599 gallons per day. The related projects in combination with proposed project would be approximately 196,763 gallons per day. The project water demand, in combination with other related projects, not limited to those described in Table IV.O-6, have the potential to impact the future availability of water supply. However, cumulative impacts are not expected to be significant for the following reasons.

<sup>22</sup> *Los Angeles Department of Water and Power, Year 2000 Urban Water Management Plan, 2000.*

<sup>23</sup> *Written correspondence with Charles Holloway, Manager of Environmental Assessment, Los Angeles Department of Water and Power, March 26, 2008.*

**Table IV.O-6  
Cumulative Water Generation**

No.	Land Use	Size	Generation Rate <sup>a</sup>	Total (gallons/day)
<b>City of Los Angeles</b>				
1	Shopping Center	26,500 sf	96 gallons/1,000 sf	2,544
	High-turnover Restaurant	10,250 sf	360 gallons/1,000 sf	3,690
2	Mini-Market Expansion	5,245 sf	96 gallons/1,000 sf	521
3	Single Family Residential	221 du	396 gallons/du	87,516
	Equestrian Park <sup>c</sup>	3 ac	0	0
4	Home Improvement Store	123,505 sf	96 gallons/1,000 sf	11,856
5	Condominium <sup>b</sup>	25 du	192 gallons/du	4,800
6	Condominium	7 du	192 gallons/du	1,344
7	Condominium	8 du	192 gallons/du	1,536
8	Condominium	12 du	192 gallons/du	2,304
9	Condominium	6 du	192 gallons/du	1,152
10	Condominium	8 du	192 gallons/du	1,536
11	Apartment	10 du	192 gallons/du	1,920
12	Condominium	11 du	192 gallons/du	2,112
13	Condominium	6 du	192 gallons/du	1,152
14	Condominium	6 du	192 gallons/du	1,152
15	Condominium	22 du	192 gallons/du	4,224
16	Condominium	26 du	192 gallons/du	4,992
17	Condominium	24 du	192 gallons/du	4,608
18	Condominium	10 du	192 gallons/du	1,920
19	Condominium	14 du	192 gallons/du	2,688
20	Condominium	10 du	192 gallons/du	1,920
21	Condominium	10 du	192 gallons/du	1,920
22	Single Family Residential	5 du	396 gallons/du	960
23	Condominium	11 du	192 gallons/du	2,112
24	Church	8,300 sf	240 gallons/1,000 sf	1,992
25	Condominium	9 du	192 gallons/du	1,728
26	Single Family Residential	10 du	396 gallons/du	3,960
<b>County of Los Angeles</b>				
27	Office	2,888 sf	180 gallons/1,000 sf	520
	Apartment	5 du	192 gallons/du	960
28	Condominium	5 du	192 gallons/du	960
<b>Related Projects Total</b>				<b>160,599</b>
<b>Proposed Project Total</b>				<b>36,164</b>
<b>Cumulative Total</b>				<b>196,763</b>
<p>Notes: du=dwelling unit; sf=square feet, ac=acre</p> <p><sup>a</sup> Source: City of Los Angeles, Draft L.A. CEQA Thresholds Guide, Exhibit K.2-11, May 14, 1998. Water consumption assumed to be 120% of wastewater generated for a given land use.</p> <p><sup>b</sup> Generation for residential uses was calculated using the 2-bedroom rate to present a conservative analysis of wastewater generation.</p> <p><sup>c</sup> No generation rates available, however any wastewater generation is expected to be minimal.</p>				

The 28 related projects would be provided water supply service by LADWP. As previously discussed, the design capacity of the LAFP is 600 mgd, and the LAFP's current average water flow is 475 mgd. Therefore, the LAFP has a remaining capacity of approximately 125 mgd. The cumulative total for related projects and the proposed project would be 0.2 percent of the total remaining daily capacity.<sup>24</sup> Further, the other related projects would not require major water infrastructure improvements that could result in temporary construction-related impacts. Finally, one related project (no. 3) would account for 1/3 of the total cumulative water supply. As it is in the proposed stage, its water needs would also be analyzed and any potential impacts would be found or mitigated. LADWP undertakes expansion or modification of water service infrastructure to serve future growth in the City as required in the normal process of providing water service. As such, the proposed project would not contribute to a cumulatively considerable effect on water supply infrastructure.

The City of Los Angeles is faced with various ongoing challenges in securing its future water supplies due to among other things droughts, environmental restrictions, and climate change. In response to these uncertainties, the Mayor and LADWP released a Water Supply Action Plan entitled "Securing L.A.'s Water Supply" dated May 2008. The plan will serve as a blueprint for creating sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. The 2005 UWMP projects the City's water demand to increase about 100,000 acre-feet per year by 2030. The Mayor's plan calls for the City to meet this future increased demand through water conservation and water recycling.

LADWP is planning to achieve these goals by expanding its water conservation efforts through public education, installing high efficient water fixtures, providing incentives, and expanding the City's outdoor water conservation program. To increase recycled water use, LADWP is expanding the recycling water distribution system to provide water for irrigation, industrial use, and groundwater recharge.

Compliance of the project and related projects with regulatory requirements that promote water conservation such as Title 20 and the LAMC, as well as AB 32, and incorporation of additional mitigation measures O.2-1 through O.2-7 would also assist in assuring that adequate water supply is available on a cumulative basis. Therefore, the cumulative impacts due to the water demand of the related projects in combination with the proposed project would be less than significant.

## MITIGATION MEASURES

Although the proposed project would have a less than significant impact on water supply, the following mitigation measures are recommended to reduce further the proposed project's impacts:

- O.2-1** The project developer shall ensure that the landscape irrigation system be designed, installed, and tested to provide uniform irrigation coverage. Sprinkler head patterns shall be adjusted to minimize over spray onto walkways and streets.

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<sup>24</sup>  $250,357/125 \text{ million} \times 100\% = 0.2\%$

- O.2-2** The project developer shall install either a “smart sprinkler” system to provide irrigation for the landscaped areas or, at a minimum, set automatic irrigation timers to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times for all zones shall be adjusted seasonally, reducing water times and frequency in the cooler months (fall, winter, spring). Sprinkler run times shall be adjusted to avoid water runoff, especially when irrigating sloped property.
- O.2-3** The project developer shall select and use drought tolerant, low water consuming plant varieties to reduce irrigation water consumption. Mulch shall be used to the extent feasible in all landscape areas.
- O.2-4** The project developer shall install low-flow faucet aerators on all sink faucets.
- O.2-5** The availability of recycled water shall be investigated as a source to irrigate large landscaped areas. Confirmation of availability or lack thereof shall be made at the discretion of LADWP prior to issuance of building permit.
- O.2-6** The project applicant shall incorporate air conditioning systems that utilize evaporative cooling (i.e., employ cooling towers) into the project.
- O.2-7** The following LADWP requirements for water conservation devices and measures for new development in the City of Los Angeles shall be implemented:
- High efficiency toilets (1.28 gallons per flush or less, includes dual flush)
  - Restroom faucet flow rate of 1.5 gallons per minute or less
  - Showerhead flow rate of 2.0 gallons per minute or less
  - Limit of one showerhead per shower stall
  - High efficiency clothes washers (water factor of 6.0 or less)
  - High efficiency dishwashers (Energy Star rated)
  - Cooling towers must be operated at a minimum of 5.5 cycles of concentration
  - Strict prohibition of single-pass cooling. Note: Single-pass cooling refers to the use of potable water to extract heat from process equipment (e.g. vacuum pump, ice machine) by passing the water through the equipment and discharging the heated water to the sanitary wastewater system

- Metering: 1) All dwelling units/commercial spaces require individual metering and billing for water use, and 2) all irrigated landscapes of 5,000 square feet or more require separate metering or submetering
- Standard Urban Stormwater Mitigation Plan (SUSMP). Compliance with all City of Los Angeles SUSMP requirements, and encouraging implementations of Best Management Practices that have stormwater recharge or reuse benefits

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The proposed project's impacts on water supply, in combination with other project have the potential to impact the future availability of water supply. However, the implementation of the recommended Mitigation Measures O.2-1 through O.2-7 would reduce the proposed project's impacts to less than significant levels.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**O. UTILITIES AND SERVICE SYSTEMS**  
**3. SOLID WASTE**

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**ENVIRONMENTAL SETTING**

Within the City of Los Angeles, solid waste management, including collection and disposal services and landfill operation, is administered by various public agencies and private companies. Single-family residential and limited multi-family residential refuse is collected by the Los Angeles Bureau of Sanitation (LABS). Waste generated by most multi-family residential sources and all commercial and industrial sources is collected by private contractors. Construction waste is also collected by private contractors. Waste disposal sites, or landfills, are operated by both the City and the County of Los Angeles (County), as well as by private companies. In addition, transfer stations are utilized to temporarily store debris until larger hauling trucks are available to transport the materials directly to the landfills. Landfill availability is limited by several factors, including: (1) restrictions to accepting waste generated only within a landfills' particular jurisdiction and/or watershed boundary; (2) tonnage permit limitations; (3) types of waste; and (4) operational constraints.

The City of Los Angeles is serviced by the Sunshine Canyon Landfill, Bradley Landfill, and Chiquita Canyon Landfill. However, over 90 percent of the solid waste generated in the City of Los Angeles is disposed at the Sunshine Canyon Landfill in Sun Valley. All three landfills accept residential, commercial, and construction waste.

The Sunshine Canyon Landfill is jointly operated by the City and the County (each operates separate portions of the landfill). However, the City's permits to dispose solid waste in its portion of the Sunshine Canyon Landfill expired in 1991. In 1996, the City contracted with a private waste hauler to dispose its solid waste in the County portion of the Sunshine Canyon Landfill. Currently, the City continues to contract with a private hauler to use the County's portion of the Sunshine Canyon Landfill to dispose of 3,500 tons of solid waste daily. In December 1999, the City approved Ordinance 172,933, which amended the Los Angeles Municipal Code to allow the City to expand the Sunshine Canyon Landfill and combine the City and County portions of the landfill.<sup>25</sup> The plan approved in Ordinance 172,933 will allow the City to: (1) work with the County to combine the City and County portions of the landfill;<sup>26</sup> (2) expand the landfill footprint to 194 acres in the City and 257 acres in the County; (3) increase capacity to 55 million tons in the City portion and increase the combined capacity of the City/County landfill to 90 million tons; (4) permit a daily maximum intake of 5,500 tons per day to the combining of the City and

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<sup>25</sup> *City of Los Angeles Ordinance 172,933 (amending LAMC Section 12.04) and its [Q] Qualified Conditions of Approval, approved December 10, 1999.*

<sup>26</sup> *Ibid.*

County portions of the landfill; (5) permit a combined City/County daily maximum intake of 11,000 tons following combining the City and County portions of the landfill; and (6) extend the estimated closure date to approximately 2029.<sup>27</sup> The City has approved, and the California Integrated Waste Management Board (CIWMB) has concurred with, the solid waste facility permit for Phase I of that plan<sup>28</sup>, which initially permits a maximum capacity of 16 million tons.<sup>29</sup>

The Bradley Landfill's operational permit expired in 2007.<sup>30</sup> Therefore, the City is exploring plans to expand the Bradley Landfill in a two-phase process. The first phase is a transitional 43-foot vertical landfill expansion that will provide additional short-term disposal capacity within the boundaries of the existing landfill. The second phase will construct a 6,000 tons per day transfer station and a 1,000 tons per day Material Recovery Facility adjacent to the existing landfill to begin operation in 2007, after the landfill's permit expired. Therefore, the only activity at Bradley Landfill is limited volume transfer operation. Since the permit for the Bradley Landfill expired in 2007 and it is not known whether or not the City's proposed plans for expansion will be accepted, for purposes of this analysis it is assumed that Bradley Landfill would not accept any solid waste and would not serve the proposed project. According to the California Integrated Waste Management Board Facility/Site Listing, Bradley Landfill's operational status for solid waste disposal is listed as closed while as a transfer facility is listed as active.<sup>31</sup>

Finally, the Chiquita Canyon Landfill accepts waste generated by construction activities in the project vicinity. The Chiquita Canyon Landfill is currently permitted to intake 6,000 tons per day of solid waste and receives approximately 4,940 tons per day. This indicates that the Chiquita Canyon Landfill is currently permitted to receive an additional 1,060 tons per day of solid waste (see Table IV.O-7).

### ***Household Hazardous Waste***

The City operates a Household Hazardous Waste Collection Program in cooperation with the County of Los Angeles Department of Public Works. The program is a way for private residents to safely dispose of household chemicals such as household cleaning products, paint substances, automotive products, pool chemicals, fertilizers, pesticides, batteries, and fluorescent light bulbs. City and County residents can bring their HHW to "Hazmobile" collection sites. These sites are mobile and are held at various locations throughout the City and County, each remaining in the same location for two to three days. These sites

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<sup>27</sup> City of Los Angeles, *Draft Subsequent Environmental Impact Report Sunshine Canyon Landfill, SEIR 91-0377-ZC/GPA, State Clearinghouse No. 92041053, July 1997.*

<sup>28</sup> *Solid Waste Facility Permit No. 19-AR-0002-2.*

<sup>29</sup> *California Integrated Waste Management Board Resolution 2003-289, May 13, 2003.*

<sup>30</sup> *Los Angeles County Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan, 2003 Annual Report, February 2005.*

<sup>31</sup> *CIWMB website: <http://www.ciwmb.ca.gov/SWIS/Search.asp>, April 17, 2008.*

are staffed with employees trained in hazardous waste handling who safely unload residents' waste into trucks and trailers onsite.<sup>32</sup>

**Table IV.O-7  
Landfill Capacity and Intake**

<b>Landfill Facility</b>	<b>Estimated Closure Date<sup>a</sup></b>	<b>Permitted Daily Intake (tons/day)<sup>a</sup></b>	<b>Average Daily Intake (tons/day)</b>	<b>Remaining Permitted Daily Intake (tons/day)</b>
Sunshine Canyon	2029	11,000	6,441 <sup>b</sup>	4,559
Chiquita Canyon	2013	6,000	4,940	1,060
<b>Total Remaining Intake</b>				<b>5,619</b>
<sup>a</sup> Source: Los Angeles County Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan, 2003 Annual Report, 2005.				
<sup>b</sup> Sunshine Canyon Landfill Update from Dave Hauser, Project Director, which combined the City daily average of 2,360 tons and the County daily average of 4,081 tons, website: <a href="http://www.sunshinecanyonlandfill.com/">http://www.sunshinecanyonlandfill.com/</a> , February 5, 2008				

Additionally, the CIWMB has certified used oil collection locations throughout the State. These locations accept uncontaminated oil throughout the year. A list of the locations can be obtained from the Bureau of Sanitation or directly from the CIWMB.<sup>33</sup>

### **Regulatory Framework**

The California Integrated Waste Management Act of 1989 (AB 939) was enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible. Specifically, the Act requires city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by the year 2000. The Act also requires each city and county to promote source reduction, recycling, and safe disposal or transformation. Cities and counties are required to maintain the 50 percent diversion specified by AB 939 past the year 2000. The City surpassed the state-mandated 50 percent diversion rate for the year 2000 and achieved a 58.8 percent diversion rate.<sup>34</sup> In addition, in 1999, that Mayor directed City departments to develop strategies to achieve the citywide recycling goal of 70 percent by 2020.<sup>35</sup>

<sup>32</sup> City of Los Angeles Bureau of Sanitation, "Household Hazardous Waste Collection Program," website: [http://www.lacity.org/san/solid\\_resources/special/services/hazmobil.htm](http://www.lacity.org/san/solid_resources/special/services/hazmobil.htm), February 5, 2008.

<sup>33</sup> City of Los Angeles Bureau of Sanitation, "Used Oil Collection Centers," website: [http://www.lacity.org/san/solid\\_resources/special/hhw/used\\_oil\\_centers.htm](http://www.lacity.org/san/solid_resources/special/hhw/used_oil_centers.htm), February 5, 2008..

<sup>34</sup> City of Los Angeles, AB939 2000 Report, August 2001, page ES-1.

<sup>35</sup> City of Los Angeles Solid Resources Program Fact Sheet, November 2000, page III.

AB 939 further requires each city to conduct a Solid Waste Generation Study and to prepare a Source Reduction and Recycling Element (SRRE) to describe how it would reach the goals. The SRRE contains programs and policies for fulfillment of the goals of the Act, including the above-noted diversion goals and must be updated annually to account for changing market and infrastructure conditions. As projects and programs are implemented, the characteristics of the waste stream, the capacities of the current solid waste disposal facilities, and the operational status of those facilities are upgraded, as appropriate. California cities and counties are required to submit annual reports to the CIWMB to update it on their progress toward the AB 939 goals. To date, implementation of AB 939 has proven to be a successful method of reducing landfill waste in the City.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

In accordance with Appendix G to the State CEQA Guidelines, a significant impact to solid waste services would occur if the landfills serving the proposed project did not have sufficient permitted capacity to accommodate the project's solid waste disposal needs and/or if it would not comply with federal, state, and local statutes and regulations related to solid waste.

Furthermore, as set forth in the City of Los Angeles *L.A. CEQA Thresholds Guide*, the determination of significance shall be made on a case-by-case basis, considering the following factors:

- (a) Amount of projected waste generation, diversion, and disposal during demolition, construction and operation of the project, considering proposed design and operational features that could reduce typical waste generation rates;
- (b) Need for additional solid waste collection route, or recycling or disposal facility to adequately handle project-generated waste; and
- (c) Whether the project conflicts with solid waste policies and objectives in the SRRE or its updates, City of Los Angeles Solid Waste Management Policy Plan, Framework Element, or the Curbside Recycling Program, including consideration of the land use specific waste diversion goals contained in Volume 4 of the SRRE.

### **Project Impacts**

#### ***Construction***

Construction activities generate a variety of scraps and wastes, with the majority of recyclables being wood waste, drywall, metal, paper, and cardboard. Based on a construction generation rate of 4.38

pounds of waste for every square foot of new residential construction,<sup>36</sup> the construction of the proposed project is estimated to generate approximately 2,168,100 pounds (1,084 tons) of solid waste over the construction period.<sup>37</sup> Recycling of construction-related waste materials in compliance with AB 939 would substantially reduce this waste stream that would otherwise go to a landfill. Therefore, approximately 1,084,050 pounds (542 tons) of construction waste<sup>38</sup> would be disposed of in the landfills.

The remaining combined daily intake of the Sunshine Canyon and Chiquita Canyon Landfill is 5,619 tons per day. As such, they would have adequate capacity to accommodate the construction waste of 542 tons generated by the proposed project over its entire construction period, which is slated to last 24 months. Therefore, a less than significant impact associated with construction waste would occur.

### **Operation**

Operation of the proposed project would result in ongoing generation of solid waste. Because the proposed project would consist of single-family homes, the City would provide solid waste pickup from the homes.<sup>39</sup> Additionally, the City's curbside collection program picks up green waste and yard trimmings for delivery to City-owned and private mulching/composting facilities, and picks up recyclables for delivery to material recovery facilities. Over the long term, the proposed project would be expected to generate 2,801 pounds (1.4 tons) of solid waste per day (see Table IV.O-8). As discussed above, the AB 939 requirement to reduce the solid waste stream in landfills by 50 percent means that 1,401 pounds (0.7 tons) must be recycled rather than disposed of in a landfill. Thus, the proposed project would generate 1,401 pounds (0.7 tons) per day that would be disposed in local landfills while the remaining 50 percent would be picked up by the City as part of its curbside recycling program.

**Table IV.O-8  
Proposed Project Solid Waste Generation**

<b>Land Use</b>	<b>Size</b>	<b>Generation Rate <sup>a</sup></b>	<b>Total (lbs/day)</b>
Single-Family Home	229 du	12.23 lbs/du	2,801
<b>Proposed Project Total</b>			<b>2,801</b>
<i>du=dwelling unit; lbs=pounds</i>			
<i><sup>a</sup> Source: City of Los Angeles, Draft L.A. CEQA Thresholds Guide, Page K.3-2, May 14, 1998, and City of Los Angeles Bureau of Sanitation, Solid Waste Generation, 1981. Waste generation includes all materials discarded, whether or not they are later recycled or disposed of in a landfill.</i>			

<sup>36</sup> USEPA Report No. EPA530-98-010, *Characterization of Building Related Construction and Demolition Debris in the United States*, July 1998, page A-1.

<sup>37</sup> Based on approximately 495,000 square feet of residential uses (137 units x 1,800 sf + 92 units x 2,700 sf).

<sup>38</sup> (2,168,100 pounds of solid waste generated by the proposed project)/2 per AB 939.

<sup>39</sup> Los Angeles Bureau of Sanitation website: [http://www.lacity.org/SAN/solid\\_resources/refuse/index.htm](http://www.lacity.org/SAN/solid_resources/refuse/index.htm), May 30, 2008.

As indicated in Table IV.O-7, the Sunshine Canyon Landfill is permitted to receive 11,000 tons per day and currently receives 6,441 tons per day. Therefore, the Sunshine Canyon Landfill can receive the additional 4,559 tons per day. If the entire 1,401 pounds (0.7 tons) of solid waste was deposited in the Sunshine Canyon Landfill, it would have more than enough permitted capacity to accommodate this additional contribution of less than 1 ton per day.

Although landfill capacity in the City is limited and any addition to the overall waste stream would reduce the City's overall landfill capacity, the Sunshine Canyon Landfill has sufficient remaining capacity for its current solid waste intake and the proposed project's intake for the foreseeable future. Furthermore, as discussed above, the City is currently exploring plans to construct or purchase additional solid waste facilities, which would increase total landfill capacity in the City. Although other landfills in Los Angeles County are near capacity, potential capacity may become available through expansion of the Bradley Landfill and/or Puente Hills Landfill, conversion of waste-to-energy and through the use of waste-by-rail to landfills outside of Los Angeles County (e.g., the proposed Eagle Mountain Landfill in Riverside County). As the long-term solid waste that would be generated by the proposed project could be accommodated at the Sunshine Canyon Landfill without causing the landfill to exceed its permitted daily capacity in the foreseeable future, the proposed project's long term impact on solid waste facilities is considered less than significant.

The proposed project may also generate a variety of common household hazardous wastes that could adversely affect existing hazardous waste management facilities in both the City and County. These wastes may be disposed of by the residents at any of the hazardous materials pickup sites offered by the City and County.<sup>40</sup>

## **CUMULATIVE IMPACTS**

The related projects evaluated in this cumulative impacts analysis comprise the planned or projected development identified in the related projects list. Implementation of the proposed project in conjunction with the 28 related projects would increase solid waste generation. As shown in Table IV.O-9, Cumulative Solid Waste Generation, the estimated solid waste generation by the related projects in combination with the proposed project would be approximately 9,570 pounds (4.8 tons) per day. However, cumulative impacts are not expected to be significant for the reasons discussed below.

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<sup>40</sup> S.A.F.E Centers Hazardous Materials drop-off location website: [http://www.lacity.org/SAN/solid\\_resources/special/hhw/safe\\_centers/index.htm](http://www.lacity.org/SAN/solid_resources/special/hhw/safe_centers/index.htm), May 30, 2008.

**Table IV.O-9  
Cumulative Solid Waste Generation**

No.	Land Use	Size	Generation Rate <sup>a</sup>	Total (gallons/day)
<b>City of Los Angeles</b>				
1	Shopping Center	26,500 sf	5 lbs/1,000 sf	133
	High-turnover Restaurant	10,250 sf	5 lbs/1,000 sf	51
2	Mini-Market Expansion	5,245 sf	5 lbs/1,000 sf	26
3	Single Family Residential	221 du	12.23 lbs/du	2,703
	Equestrian Park <sup>b</sup>	3 ac	0	0
4	Home Improvement Store	123,505 sf	5 lbs/1,000 sf	618
5	Condominium	25 du	12.23 lbs/du	306
6	Condominium	7 du	12.23 lbs/du	86
7	Condominium	8 du	12.23 lbs/du	98
8	Condominium	12 du	12.23 lbs/du	147
9	Condominium	6 du	12.23 lbs/du	73
10	Condominium	8 du	12.23 lbs/du	98
11	Apartment	10 du	12.23 lbs/du	122
12	Condominium	11 du	12.23 lbs/du	135
13	Condominium	6 du	12.23 lbs/du	73
14	Condominium	6 du	12.23 lbs/du	73
15	Condominium	22 du	12.23 lbs/du	269
16	Condominium	26 du	12.23 lbs/du	318
17	Condominium	24 du	12.23 lbs/du	294
18	Condominium	10 du	12.23 lbs/du	122
19	Condominium	14 du	12.23 lbs/du	171
20	Condominium	10 du	12.23 lbs/du	122
21	Condominium	10 du	12.23 lbs/du	122
22	Single Family Residential	5 du	12.23 lbs/du	61
23	Condominium	11 du	12.23 lbs/du	135
24	Church	8,300 sf	5 lbs/1,000 sf	42
25	Condominium	9 du	12.23 lbs/du	110
26	Single Family Residential	10 du	12.23 lbs/du	122
<b>County of Los Angeles</b>				
27	Office	2,888 sf	6 lbs/1,000 sf	17
	Apartment	5 du	12.23 lbs/du	61
28	Condominium	5 du	12.23 lbs/du	61
<b>Related Projects Total</b>				<b>6,769</b>
<b>Proposed Project Total</b>				<b>2,801</b>
<b>Cumulative Total</b>				<b>9,570</b>
<sup>a</sup>	Notes: du=dwelling unit; sf= square feet ;ac = acre; lbs = pounds			
<sup>b</sup>	a Source: City of Los Angeles, Draft L.A. CEQA Thresholds Guide, Exhibit K.2-11, May 14, 1998 and City of Los Angeles Bureau of Sanitation, Solid Waste Generation, 1981. Waste generation includes all materials discarded, whether or not they are later recycled or disposed of in a landfill.			
<sup>c</sup>	b No generation rates available, however any solid waste generation is expected to be minimal.			

The Sunshine Canyon Landfill is permitted to receive up to 11,000 tons of solid waste each day. The Sunshine Canyon Landfill currently receives approximately 2,360 tons of solid waste daily from the City and 4,081 tons of solid waste daily from the County. Therefore the total daily intake is 6,441 tons daily and has a remaining daily capacity of 4,559 tons. Assuming that all of the cumulative solid waste is sent to the Sunshine Canyon Landfill with no waste stream diversion, the additional 4.8 tons per day would not cause the Sunshine Canyon Landfill to exceed its permitted daily capacity. As previously discussed, additional capacity to accommodate the cumulative disposal needs of the proposed project and related projects may become available as the City develops solutions to meet future disposal needs at a regional level (e.g., expanding existing landfills, transporting waste to other landfills, converting waste to energy, recycling, and waste reduction). Furthermore, similar to the proposed project, the related projects would be subject to the requirements of AB 939 (i.e., divert 50 percent of the solid waste generated from landfills through waste reduction, recycling, and composting).

All projected increases of solid waste would be within the projected future capacities of the landfill.<sup>41</sup> Coupled with other potential growth within the service area of potentially affected landfills, additional cumulative increases in solid waste generation could occur. As with the proposed project, other future development projects would be required to participate in the City's recycling program, thus reducing the amount of solid waste to be disposed of at the landfills described above. Because landfill capacities would be sufficient to accommodate the solid waste generation by cumulative growth, the proposed project would not contribute a cumulatively considerable effect on solid waste disposal facilities and impacts would be less than significant.

## MITIGATION MEASURES

The proposed project's impacts on the City's solid waste disposal facilities would be less than significant and mitigation measures are therefore not required. However, the following mitigation measures are recommended to further reduce the proposed project's impacts:

- O.3-1** The construction contractor shall only contract for waste disposal services with a company that recycles construction-related wastes.
- O.3-2** To facilitate the onsite separation and recycling of construction related wastes, the construction contractor should provide temporary waste separation bins onsite during construction.
- O.3-3** The project developer shall make information published by the City regarding the curbside recycling program, as well as onsite composting methods for yard waste, available to purchasers of dwelling units at the time of sale.

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<sup>41</sup> Analysis conducted for the Citywide General Plan Framework indicates that there is presently no projected shortfall in landfill capacity in the City of Los Angeles in the foreseeable future, taking into account projected Citywide growth (General Plan Framework Draft EIR).

**O.3-4** Recycling bins shall be provided at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material. The proposed project shall comply with all applicable adopted recycling and waste diversion policies of the City of Los Angeles.

#### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The proposed project's impacts on the City's solid waste disposal facilities would be less than significant without mitigation. However, implementation of the recommended Mitigation Measures O.3-1 through O.3-4 would further reduce the proposed project's impacts.