SECTION 2.0 – PROJECT DESCRIPTION

This chapter provides a description of the Proposed Project. Included are the Proposed Project location, background, objectives Proposed Project description, alternatives, and a summary of Project approvals that would be required.

2.1 PROJECT LOCATION

2.1.1 Location

The Devil's Gate Reservoir Sediment Removal and Management Project (Proposed Project) is located in Devil's Gate Reservoir, the City of Pasadena (City), in Los Angeles County (County) approximately 14 miles north of downtown Los Angeles (see Figure 2.1-1: Proposed Project Location and Vicinity Map). The City of La Cañada Flintridge and the unincorporated community of Altadena are located near the Proposed Project site to the west and east, respectively.

Lying south of the San Gabriel Mountains, the Proposed Project site is located in the upper portion of the Arroyo Seco watershed. The Arroyo Seco watershed extends approximately 11 miles from the border of the Angeles National Forest to its confluence with the Los Angeles River. Approximately 20,416 acres (31.9 square miles) of both residential and undeveloped land drain into Devil's Gate Reservoir.

The Proposed Project includes transportation and placement of sediment at facilities already prepared and designated to accept such sediment (see Figure 2.1-2: Sediment and Vegetation Disposal Sites Map). The facilities that will be used for the majority of the Proposed Project sediment placement will include the Waste Management Facility in Azusa, the Vulcan Materials Reliance Facility in Irwindale, and the Manning Pit Sediment Placement Site (SPS) in Irwindale for the placement of sediment, and Scholl Canyon Landfill for the placement of vegetation and organic debris. Sediment may also be placed at the following disposal facilities in the Sunland area of Los Angeles: Sheldon Pit, Sun Valley Fill Site, Bradley Landfill, and Boulevard Pit.

2.1.2 Project Site

The Proposed Project site covers approximately 120 acres. The topography in the vicinity of the Proposed Project site is generally flat, with a slight incline to the north. The San Gabriel Mountains are located to the north of the Proposed Project site and are characterized by both the foothills and steep slopes associated with mountainous terrain. The Proposed Project site can currently be accessed via a park entrance at Oak Grove Drive and Foothill Boulevard on the west, Windsor Avenue via La Cañada Verdugo Road on the southeast, and Explorer Road on the northeast.

2.1.3 General Plan Designation/Zoning

The Proposed Project site has a General Plan Land Use designation of Open Space and is zoned as Open Space under the City of Pasadena General Plan (City of Pasadena 2004).

Figure 2.1-1
Devil's Gate Reservoir Sediment Removal and Management Project
Project Location and Vicinity Map

Version Date: 10/5/2013

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20346 - \\Cgi-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.1-1 Proposed Project Location and Vicinity Map.mxd

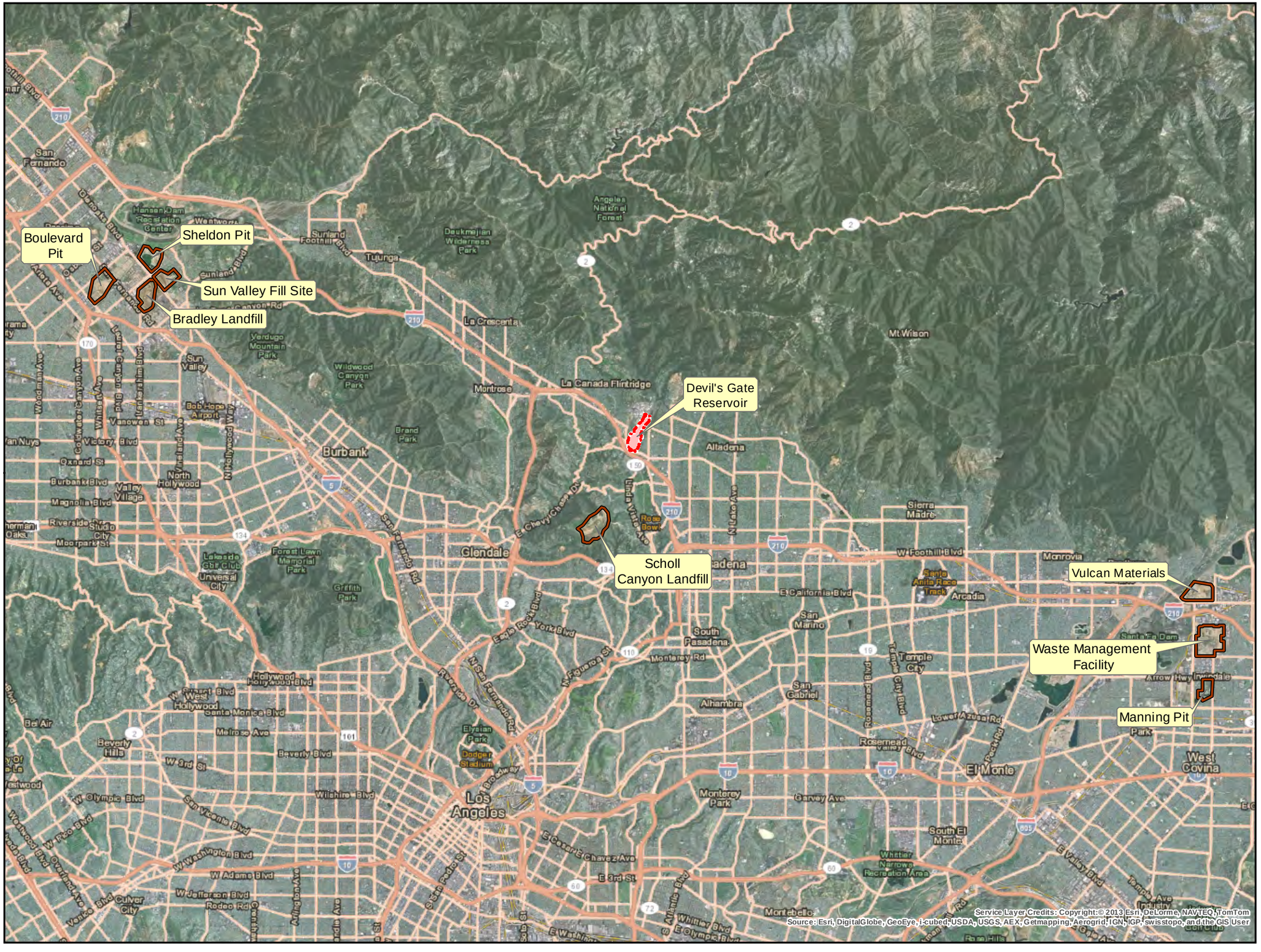


Figure 2.1-2
Devil's Gate Reservoir Sediment Removal and Management Project

Sediment and Vegetation Disposal Sites Map

Version Date: 10/4/2013

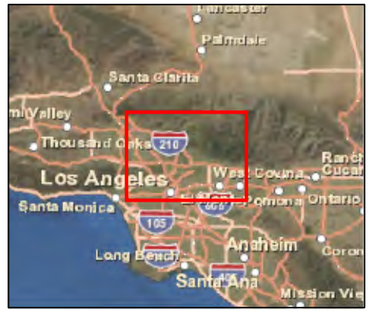
Devil's Gate Resevoir

Sediment Placement Sites

SCALE= 1 inch equals 2 miles

0 1 2 4

Miles



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\\Cgr-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devils Gate EIR\20346 Figure 2.1-2 Sediment and Vegetation Disposal Sites.mxd

2.1.4 LACFCD Devil's Gate Dam and Reservoir Easement

Through easements granted in May of 1919 and March of 1965, the City of Pasadena granted the LACFCD, under a perpetual easement, the right to construct, reconstruct, inspect, maintain, repair, and operate Devil's Gate Dam, its spillway, bypasses, tunnels, and other support facilities as may be necessary for the construction and maintenance of a reservoir capable of impounding the waters of the Arroyo Seco for purposes of storage and control, and to control such waters as may be necessary in the prevention of damage by flood (City of Pasadena 1919/1965).

2.1.5 Hahamongna Watershed Park Master Plan

In 1993, the City of Pasadena established Hahamongna Watershed Park, which includes Devil's Gate Reservoir. Hahamongna Watershed Park is owned and operated by the City of Pasadena and includes the Oak Grove area of Hahamongna Watershed Park. Recreational uses in the park include hiking, bicycling, horseback riding, picnicking, soccer, baseball, softball, and disc golf. Between 2003 and 2005, the City of Pasadena developed and adopted three separate master plans that govern Pasadena parks along the Arroyo Seco: the Lower Arroyo Master Plan, the Central Arroyo Master Plan, and the Hahamongna Watershed Park Master Plan (HWPMP). The HWPMP is a land use plan for approximately 300 acres of Hahamongna Watershed Park, which in total encompasses approximately 1,300 acres of open space that extends northward from Devil's Gate Dam into the Arroyo Seco Canyon. Devil's Gate Dam and Reservoir is within the HWPMP area. The HWPMP establishes a visionary framework for recreation, water resources, flood management, habitat restoration, and cultural resources in Hahamongna Watershed Park (HWPMP 2003).

2.1.6 Surrounding Land Uses

Hahamongna Watershed Park is approximately 300 acres of parkland and open space located at the base of Arroyo Seco Canyon, in the floodplain behind Devil's Gate Dam and includes the Oak Grove area of Hahamongna Watershed Park. The Oak Grove area of Hahamongna Watershed Park, located west of the Proposed Project site, contains picnic facilities, restrooms, a play field, an equestrian staging area, trails, and a disc golf course. The current leaseholders within Hahamongna Watershed Park include the Los Angeles County Fire Department (Fire Camp 2) and the Rose Bowl Riders, who sublet to the Tom Sawyer Camp. In addition to the LACFCD, Southern California Edison, Southern California Gas Company, and Pasadena Water and Power hold easements within Hahamongna Watershed Park. Other land uses directly adjacent to the Proposed Project area include the California Institute of Technology – Jet Propulsion Laboratory (JPL) to the northwest and east; La Cañada High School and Hillside School and Learning Center to the west; single-family residential uses to the south, north, and east; and the 210 Foothill Freeway (I-210) to the south.

2.2 PROJECT BACKGROUND

2.2.1 LACFCD History

Devil's Gate Dam was built in 1920, following the floods of 1914 and 1916, for the purposes of water conservation and flood control. Devil's Gate Dam is the oldest dam constructed by the LACFCD. Devil's Gate Dam and Reservoir had an original storage capacity of approximately 7,423,000 cubic yards (cy). Between 1934 and 1947, most of the Arroyo Seco downstream of the dam (approximately 450 feet south of the dam) was channelized.

Following the 1971 Sylmar Earthquake, heightened safety concerns and better understanding of seismic behavior prompted new investigations and analysis of LACFCD dams, including Devil's Gate Dam. In response to findings from these studies, in 1978 the State Department of Water Resources Division of Safety of Dams (DSOD) officially imposed an operational restriction preventing the holding of water at Devil's Gate Dam due to concerns with the dam's ability to withstand a major earthquake. In 1998, the LACFCD completed a construction project that seismically rehabilitated Devil's Gate Dam. The rehabilitation project also enlarged the spillway to safely pass the tributary watershed's updated Probable Maximum Flood, the required level of flood protection, without overtopping the dam. After project completion, the DSOD restriction was removed, restoring the dam and reservoir to its full operational capacity, thus providing its potential for water conservation. The project improvements resulted in Devil's Gate Dam meeting current maximum credible earthquake design standards and probable maximum flood design standards.

The Devil's Gate Reservoir captures stormwater, sediment, and debris during storm events and retains stormwater to prevent high flow rates from overwhelming the downstream flood control channel. The outflow from the reservoir is controlled by three outlet corridors: a low level gate, the outlet valve, and the outlet tunnel gates. These allow the dam to make controlled releases up to 5,500 cubic feet per second (cfs). Controlled releases are made through the outlet valve and tunnel gates after the reservoir has impounded stormwater. During major storm events that exceed the capacity of the valves and gates, the dam is designed such that the reservoir level rises until flow discharges uncontrolled through the spillway ports (openings in the spillway structure) and then over the spillway.

As noted above, sediment and debris is captured in the reservoir during storm events. Sediment removal efforts have previously taken place at the reservoir in order to ensure correct functioning of the outlet works and/or to maintain reservoir capacity. These activities are granted under the LACFCD Devil's Gate Dam and Reservoir Easement and performed in accordance with CEQA. The last major Devil's Gate Reservoir sediment removal project occurred in 1994, when 190,000 cy of sediment were removed. Sediment was trucked off site via a maintenance road just west of the dam which exits on to Oak Grove Drive. Two smaller sediment removal operations also took place with 14,000 cy removed in 2006 and 3,800 cy removed in 2009.

Sediment accumulation has increased dramatically over the past several years as a result of the 2009 Station Fire, the largest fire in recorded history of the Angeles National Forest (est. 1892) and the 12th largest fire in California since 1933 (CalFire 2013). It burned over 160,000 acres leaving vast areas of the San Gabriel Mountains denuded and susceptible to sediment flows. The fire impacted five of the LACFCD's dams and reservoirs, one of which is the Devil's Gate Dam and Reservoir. Approximately 68 percent of the watershed tributary to Devil's Gate Reservoir (approximately 100 percent of the undeveloped portion) was burned, making sediment deposition inevitable during subsequent storm events. The storms that occurred in the two wet seasons after the fire increased sediment accumulation in the reservoir by approximately 1,300,000 cy, reducing the available capacity to less than one DDE. In October 2010, the California DSOD recommended the removal of sediment buildup behind the dam as well as the removal of vegetation growth.

In 2010, LACFCD initiated project planning to remove 1,670,000 cy from the reservoir. In March 2011, in recognition of stakeholder and environmental concerns, the Los Angeles County Board of Supervisors directed LACFCD to complete an EIR to assess the impacts associated with removing sediment from the Proposed Project site. Since the EIR would take considerable time to complete, LACFCD was also directed to implement interim measures to reduce downstream flood risk until the EIR is completed and a sediment removal project is implemented.

The Interim Measures Project (IMP) is currently underway to reduce downstream flood risk. The IMP includes dam modifications to keep debris from plugging the outlet works and allow for the removal of up to 25,000 cy of sediment per year from the dam face until the Proposed Project is started. In 2011, approximately 13,000 cy were removed from the dam face and placed at Johnson Field. In 2012, approximately 1,525 cy of sediment and 419 cy of green waste were removed from the dam face and hauled to Johnson Field and Scholl Canyon Landfill, respectively. In 2013, 1,200 cubic yards of sediment and 12 to 14 loads of green waste were removed from the dam face and hauled to Johnson Field and Scholl Canyon Landfill, respectively.

2.3 PROJECT NEED

The LACFCD must remove sediment that has accumulated behind the dam to restore the capacity of Devil's Gate Reservoir to minimize the level of flood risk to downstream communities along the Arroyo Seco. In its current condition, the reservoir no longer has the capacity to safely contain another major debris event; and the outlet works have a risk of becoming clogged and inoperable. Too much sediment accumulation in the reservoir can affect the ability of the outlet works to function correctly and can potentially reduce available reservoir capacity to below that which is necessary for flood control storage or to safety contain future sediment inflow including the Design Debris Event (DDE). The DDE is the predicted amount of sediment that can flow into the reservoir after the undeveloped portion of the tributary watershed is completely burned and a 50-year design storm event occurs after four years of watershed recovery. The 50-year design storm and the DDE are defined by the Los Angeles County Department of Public Works Hydrology and Sedimentation Manuals respectively. The DDE for the Devil's Gate Reservoir is approximately 2 million cy. Due to the sediment deposited in the reservoir from winter storms after the 2009 Station Fire, the current available capacity for Devil's Gate Reservoir is less than one DDE. Sediment removal is required to maintain flood control capacity behind the dam.

2.4 PROJECT GOALS AND OBJECTIVES

The Proposed Project will remove sediment from Devil's Gate Reservoir to restore the design capacity (volume for two DDEs below the spillway elevation of 1,040.5 feet) and establish a reservoir management system to maintain the flood control capacity of the reservoir. This will include removal of approximately 2.9 million cy of current excess sediment in the reservoir in addition to any additional sediment received during the project sediment removal phase.

Primary project objectives include:

1. Reducing flood risk to the communities downstream of the reservoir adjacent to the Arroyo Seco by restoring reservoir capacity for flood control and future sediment inflow events;

2. Supporting sustainability by establishing a reservoir configuration more suitable for routine maintenance activities including reservoir management;

3. Removing sediment in front of the dam to facilitate an operational reservoir pool to reduce the possibility of plugging the outlet works with sediment or debris during subsequent storm events;

4. Removing sediment placed at Johnson Field during the Devil's Gate Reservoir Interim Measures Project;

5. Supporting dam safety by removing sediment accumulated in the reservoir in a timely manner to ensure the ability to empty the reservoir in the event of a dam safety concern; and

6. Delivering the sediment to placement or reuse facilities that are already prepared and designated to accept such material without native vegetation and habitat removal.

2.5 PROPOSED PROJECT DESCRIPTION, CONFIGURATION A

2.5.1 Sediment Removal Phase

The sediment removal phase constitutes the construction phase of the Proposed Project. Approximately 2.9 million cy of sediment is the current excess amount of sediment in the reservoir; however, additional sediment accumulation is anticipated during the upcoming storm seasons due to the denuded surfaces of the watershed created by the 2009 Station Fire. Proposed Project excavation activities will take place within the project's excavation limit boundaries (see Figure 2.1-1: Proposed Project Location and Vicinity Map). The proposed excavation will remove approximately 2.9 million cy of current excess sediment in the reservoir in addition to any additional sediment received from storm flows during the Proposed Project sediment removal phase.

Excavation/Reservoir Configuration

At the time the NOP was released, an area of 178 acres was considered for the Proposed Project; this was refined to an area of 120.42 acres for the EIR. Specific excavation limits and reservoir configuration for the Proposed Project are shown in Figure 2.5-1: Proposed Project, Configuration A Excavaton Area and Configuration A Management Area, Option 1. As shown in Figure 2.5-1, the basin will be excavated to a 985-foot elevation at the face of the dam, sloping up to a 1,070-foot elevation at approximately 4,977 feet north of the dam. In addition to the sediment excavated as part of the Proposed Project, sediment stockpiled at Johnson Field as part of the IMP will also be removed. Proposed Project excavation will not involve the Oak Grove area of Hahamongna Watershed Park, the area of the reservoir above the northern end of excavation limits, or the City of Pasadena's spreading grounds on the east side of the basin.

Removal Method

Historically, as storm events have deposited sediment in the reservoir, native and non-native vegetation have become established in the sediment. During subsequent storm events some of the vegetation and trees have been washed out by storm flows or submerged when the reservoir level rises, or buried under sedimentation. Despite the dynamic changes to water elevation and flows in the reservoir, mature black willow trees, Riversidean Alluvial Fan Sage Scrub, Mule Fat Scrub, and riparian vegetation have thrived in the reservoir. During storm events following the 2009 Station Fire, a large portion of the reservoir vegetation was buried in sediment; however, significant amounts of vegetation, including numerous mature willow trees, remain intact.

In order to remove the sediment from the reservoir, trees and vegetation growing within the excavation areas will need to be removed. The accumulated sediment will be excavated with construction equipment including but not limited to approximately four front loaders with 4-cubic-yard buckets, two

bulldozers, one excavator, one grader, one water truck, and two tender trucks (for fuel and maintenance). Vegetation and organic debris will be separated from the sediment. Coarse material may need to be processed through sorters and crushers to be hauled offsite. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow the sediment to dry. Stockpiling of the sediment will occur onsite within Devil's Gate Reservoir.

Sediment Disposal

Excavated sediment will be trucked offsite to existing disposal site locations which are currently available to accept the sediment. Trucks will travel and place sediment at one of the primary disposal site locations, the Waste Management Facility in Azusa, the Vulcan Materials Reliance Facility in Irwindale, or the Manning Pit Sediment Placement Site (SPS) in Irwindale. Secondary disposal sites are the facilities in Sun Valley (Sheldon Pit, Sun Valley Fill Site, Bradley Landfill, and Boulevard Pit). It is estimated that the eastern disposal sites will be used from 80 to 100 percent of the time. Use of the Sun Valley sites is estimated to occur from 0 to 20 percent of the time. Removed vegetation and organic debris will be hauled to Scholl Canyon Landfill located in the City of Glendale. It is estimated that for approximately three weeks during the first year of sediment removal, approximately 50 percent of the total trucking will be vegetation and organic debris hauled to Scholl Canyon Landfill; and the remaining 50 percent will be sediment distributed to the other sites. In the subsequent years of sediment removal, it is estimated that during the first week 25 percent of the total trucking will be vegetation and organic debris hauled to Scholl Canyon Landfill; and the remaining 75 percent will be sediment distributed to the other sites.

The trucks expected to be used for sediment transport are double dump trucks, which have an estimated capacity of 16 to 20 cy of sediment. The trucks are anticipated to haul an estimated 7,650 cy per day. Removal of the sediment, vegetation, trees, and organic debris is expected to require an average of 50 truck round trips per hour, with an estimated maximum of 425 truck round trips per day during excavation activities.

Waste Management Facility is located at the corner of Irwindale Avenue and Gladstone Street in the City of Azusa. Hours of operation are 6 a.m. to 8 p.m., Monday to Saturday. The facility is permitted to accept 6,500 tons per day and has a remaining capacity of approximately 34 million cy (CalRecycle 2013).

Vulcan Materials Reliance Facility is owned by Vulcan Materials Company. The facility is located north of East Foothill Boulevard, off Irwindale Avenue. The facility is a sand and gravel facility that processes asphalt and aggregate materials. Days and hours of operation are 7:00 a.m. to 4:00 p.m., Monday through Friday. The facility is permitted to accept 6,000 tons per day and has a maximum permitted capacity of 2,187,000 tons per year (CalRecycle 2013).

Manning Pit SPS is located at the corner of Vincent Avenue and Arrow Highway in the City of Irwindale. The Manning Pit SPS is a LACFCD-designated sediment placement site. As of 2011, the facility has an estimated remaining capacity of approximately 2 million cy.

Sheldon Pit is an active operating gravel pit owned by Vulcan Materials Company. Hours of operation are 6 a.m. to 8 p.m., Monday to Saturday. It has no route or load restrictions (Vulcan Materials 2013). Located at the north end of the Sun Valley Watershed, the pit is bounded by Wentworth Street to the

east, Glenoaks Boulevard to the southwest, Tujunga Wash to the northwest, and Hansen Dam Golf Course to the north.

Sun Valley Fill Site (also known as Cal-Mat and Glenoaks Landfill) occupies a 90-acre site bounded by Glenoaks Boulevard on the southwest, Wentworth Street on the northwest, Peoria Street on the southeast, and Dronfield Avenue on the northeast. Hours of operation are 6 a.m. to 8 p.m., Monday to Saturday. It has a load restriction of 300 trucks per day (Vulcan Materials 2013). Cal Mat Pit was an active gravel pit until the late 1980s. Since then it has been used as a landfill for inert construction debris including concrete, asphalt, rock, dirt, and brick. Vulcan Materials Company owns and operates Cal Mat Pit under a City of Los Angeles Environmental Affairs Department solid waste facilities permit (Number 19-AR-1160). A reclamation plan for Cal Mat Pit (Conrock and California Portland Cement 1977) has been approved by and is on file at the City of Los Angeles Department of City Planning (LADWP 2012).

Boulevard Pit, an active gravel pit is owned by Vulcan Materials Company. The pit is bounded by Branford Street to the north, San Fernando Road to the east, Sheldon Street to the south, and Laurel Canyon Boulevard to the west. Hours of operation are 6 a.m. to 8 p.m., Monday to Saturday. It has no route or load restrictions (Vulcan Materials 2013).

Owned and operated by Waste Management, Inc., the Bradley Landfill and Recycling Center (Sun Valley Recycling Park) is focused on recycling green waste and other materials, converting gas to energy (providing electric power for more than 6,000 homes), waste hauling, and post closure activities related to the Bradley Landfill such as monitoring of air and groundwater (the landfill closed April 14, 2007). The facility does not currently accept soil for disposal; however, the location was considered since the Recycling Park may require soil for onsite construction projects in the future within the multi-year construction period for the project (LADWP 2012).

Scholl Canyon Landfill is located in the City of Glendale, just north of State Highway 134 (SR-134). The site accepts clean dirt, clean asphalt, and green waste. The site has a remaining capacity of 9.9 million cy and can accept green waste loads to use as alternative daily cover and mulch (LACSD 2013). Hours of operation are 8 a.m. to 5 p.m., Monday to Friday, and 8 a.m. to 3:30 p.m., Saturday. The landfill is permitted to accept 3,400 tons per day (CalRecycle 2013).

Sediment Disposal Truck Routes

The sediment disposal truck routes are described below and shown in Figure 2.5-2: Haul Routes to Irwindale/Azusa Disposal Sites, Figure 2.5-3: Haul Routes to Sun Valley Disposal Sites, and Figure 2.5-4: Haul Route to Scholl Canyon Landfill.

Project Site Access/Staging

Trucks will enter the reservoir via the upgraded reservoir access road located on the east side of the reservoir. After rehabilitation and minor improvements to the existing west side reservoir access road, trucks will exit the reservoir via this road. As part of the Proposed Project, the existing western access road and the upgraded eastern access road will be improved with new ramps to allow for truck traffic in and out of the reservoir. The eastern access road will allow for one-way truck traffic, and the western access road will allow for one-way truck traffic. The eastern access road will now allow for traffic to enter the reservoir directly from Oak Grove Drive as opposed to using La Cañada Verdugo Road. The existing western access road is currently unpaved, and the portion of this access road from below the

bike path to the reservoir will be widened but remain unpaved. The portion of this access road from Oak Grove Drive to the West Rim Trail bike path will need to be widened and paved. Empty trucks will be staged within the Proposed Project site.

Project Site and Freeway Access

As shown in Figures 2.5-2 through 2.5-6, trucks will access the Proposed Project site from I-210 by exiting at Windsor Avenue/Arroyo Boulevard, turning north at Windsor Avenue, turning left onto northbound Oak Grove Drive, and then entering the eastern reservoir access road.

Loaded trucks will exit the reservoir on the existing access road, turning right onto northbound Oak Grove Drive, then left onto westbound Berkshire Place, and then to I-210 eastbound to disposal sites in Azusa and Irwindale or to I-210 westbound to disposal sites in Sun Valley.

Waste Management Facility/Vulcan Materials Reliance Facility/Manning Pit SPS Route

As shown in Figure 2.5-2, trucks carrying sediment to the Waste Management Facility or the Manning Pit SPS will follow I-210 east, exiting at Irwindale Avenue, turning right onto Irwindale Avenue southbound, turning left onto eastbound Gladstone Street, then turning left into the Waste Management Facility or turning right onto southbound Vincent Avenue, and turning right into Manning Pit SPS. Trucks returning to I-210 will take Vincent Avenue north and/or turn left onto westbound Gladstone Street and then turn right onto northbound Irwindale Avenue to I-210 west. Trucks carrying sediment to the Vulcan Materials Reliance Facility will follow I-210 east, exiting at Irwindale Avenue, turning left onto Irwindale Avenue northbound, and entering the facility immediately north of Foothill Boulevard. Trucks returning to I-210 will take Irwindale Avenue southbound and merge right onto I-210 west.

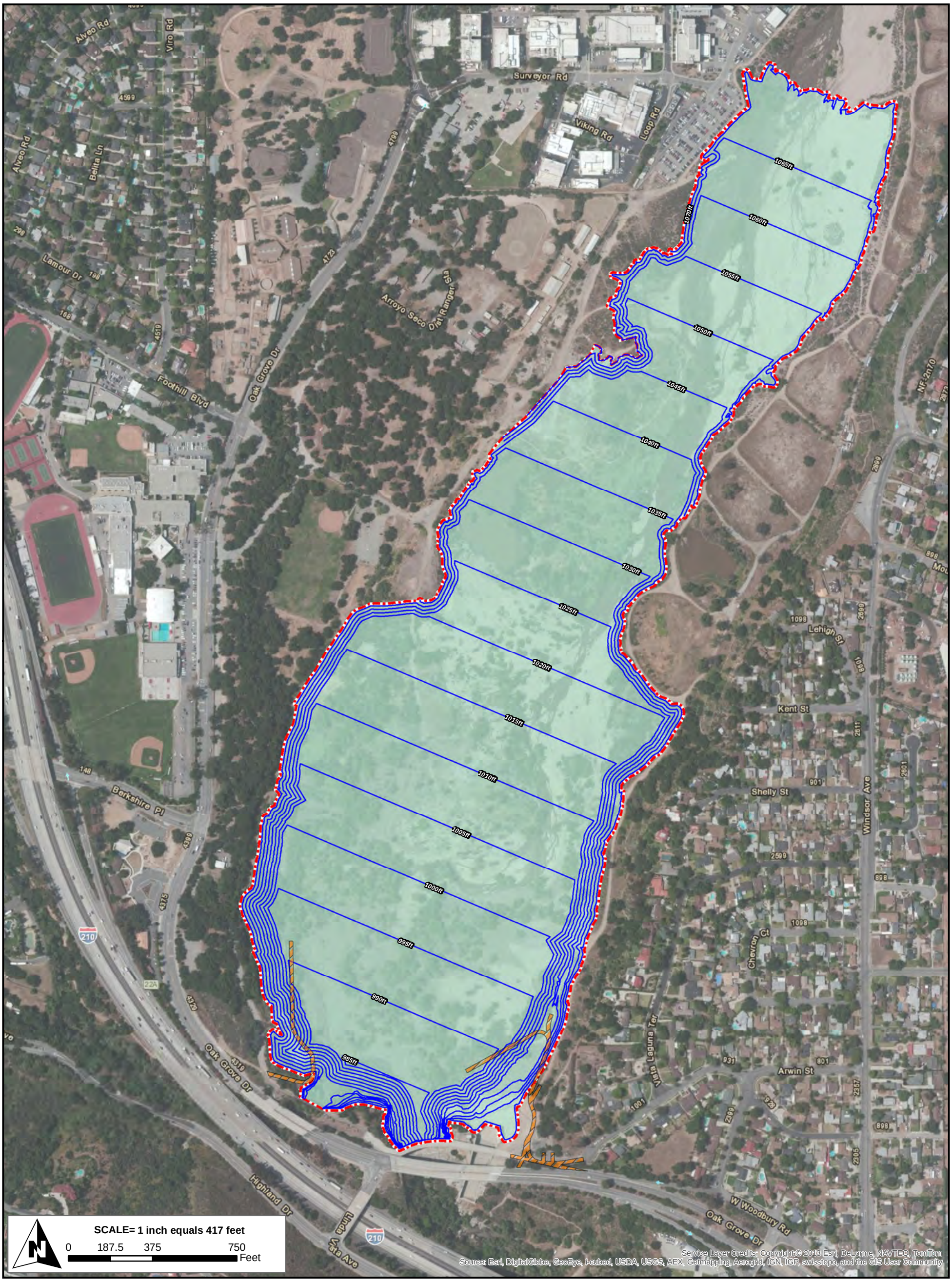
Sun Valley Disposal Sites Route

As shown in Figure 2.5-3, trucks carrying sediment to Sheldon Pit, Sun Valley Fill Site, and Bradley Landfill will follow I-210 west until exiting at the Osborne Street/Foothill Boulevard interchange; turning left onto Foothill Boulevard westbound, then left onto Osborne Street westbound, then left onto Glenoaks Boulevard southbound, and then left onto Sheldon Street eastbound. Trucks accessing Bradley Landfill will turn left onto Glenoaks Boulevard, then right onto Peoria Street. Trucks will then follow this route in reverse to return to I-210.

Trucks accessing Boulevard Pit will follow I-210 west until exiting at the Wheatland Avenue interchange; turning right onto Wheatland Avenue northbound, right onto Foothill Boulevard eastbound, then right onto Wentworth Street westbound, the left onto Glenoaks Boulevard, right onto Tuxford Street, then right onto San Fernando Road, then left onto Branford Street. Trucks will then follow this route in reverse to return to I-210.

Scholl Canyon Landfill Route

As shown in Figure 2.5-4, for vegetation and organic material disposal, the trucks will follow I-210 east to SR-134 west, exit Figueroa Street northbound, and then turn right on northbound Scholl Canyon Road to the Scholl Canyon Landfill. Exiting southbound on Scholl Canyon Road, returning trucks will turn right onto Figueroa Street to access SR-134 eastbound and continue to I-210 west.



Proposed Project Boundary

Access Road

Reservoir Management Area

Sediment Removal Excavation Limit

Figure 2.5-1

Excavation Area and Configuration A Management Area, Option 1

Proposed Project - Configuration A

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\\Cgi-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.5-1 Proposed Project, Configuration A Excavation Area and Configuration A Management Area, Option 1.mxd

Figure 2.5-2
Proposed Haul Routes Map
Devil's Gate to the
Irwindale/Azusa Disposal Sites

Version Date: 10/5/2013

Approximate Limts of Work

Access Road

Haul Routes

Inbound Haul Route

Outbound Haul Route

SCALE= 1 in = 1 mile

0 0.5 1 2

Miles

Devil's Gate Inset

Manning Pit Inset

Vulcan Materials

Waste Management Facility

Manning Pit

Devil's Gate Reservoir

Esri, HERE, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

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\\Cgi-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.5-2 Haul Route to Irwindale_Azusa Sites.mxd

Figure 2.5-3
Proposed Haul Routes Map
Devil's Gate to the
Sun Valley Sites

Version Date: 10/21/2013

Approximate Limts of Work

Access Road

Haul Routes

Inbound Haul Route

Outbound Haul Route

SCALE=1 inch equals 1 mile

0 0.5 1 2

Miles

Sun Valley Sites Inset

Sheldon Pit

Sun Valley Fill Site

Boulevard Pit

Bradley Landfill

Devil's Gate Inset

Devil's Gate Reservoir

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

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\\Cgi-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.5-3 Haul Route to Sun Valley Sites.mxd

Figure 2.5-4
Proposed Haul Routes Map
Devil's Gate to the
Scholl Canyon Landfill

Version Date: 10/18/2013

Approximate Limts of Work

Access Road

Haul Routes

Inbound Haul Route

Outbound Haul Route

SCALE=1 inch equals 1 mile

0 0.5 1 2

Miles

Devil's Gate Inset

Scholl Canyon Landfill Inset

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

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\\Cgi-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.5-4 Haul Route to Scholl Canyon Landfill.mxd

Project Schedule

Construction for the Proposed Project is expected to occur between Summer 2015 and Summer 2020. Excavation and associated activities within the reservoir area are expected to take place during drier months, from April to December, Monday through Saturday (except on holidays), as weather permits. During dry years, work could potentially start earlier and/or continue later in the year. Onsite excavation activities will take place between the hours of 7:00 a.m. and 6:00 p.m. Standard Time and between 7:00 a.m. and 7:00 p.m. Daylight Savings Time and on Saturday between 8:00 a.m. and 5:00 p.m. Removal of sediment and organic materials offsite is expected to take place during these hours.

2.5.2 Reservoir Management Phase

The reservoir management phase of the Proposed Project is expected to start in 2020 after the completion of the main sediment removal phase. The Proposed Project is expected to result in a reservoir configuration and access to facilitate future routine annual management and sediment removal. After the initial proposed sediment removal activities, the reservoir will be managed through vegetation maintenance, sediment excavation/trucking offsite, and Flow-Assisted Sediment Transport (FAST). These activities will take place under one of the options described below. The purpose of the proposed annual management activities, described below, is to reduce buildup of sediment in the reservoir management area and eliminate or substantially reduce the need for large-scale sediment removal. It is estimated that an average of 13,000 cy of sediment will potentially be deposited in the reservoir annually after completion of the Proposed Project. The access roads will be maintained to provide proper road width for access.

Option 1 – Entire Configuration A Management Area

Under Option 1, the reservoir configuration shown in Figure 2.5-1 will be maintained with the approximate cut and elevation levels described previously in the Excavation/Reservoir Configuration discussion through the following activities.

Vegetation Maintenance

Vegetation within the reservoir configuration will be mowed or removed and grubbed annually. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall.

Flow-Assisted Sediment Transport (FAST)

During some rain events (during the winter), with the dam gate open, natural flows will pass finer grain size sediment through the reservoir and downstream of the dam. This is referred to as a FAST operation. FAST operations have been routinely used at Devil's Gate Reservoir and result in relatively small amounts of finer grained sediment passing through the reservoir. A FAST operation uses the storm runoffs throughout the storm season to flush the sediment out of the reservoir. This is a passive method that does not use any mechanical agitation or assistance. This method works effectively when sediment deposition behind the dam is minimal. A FAST operation, if performed regularly, can be used to reduce sediment accumulation in the reservoir and thus help maintain capacity. The amount of sediment that will be removed through FAST operations is limited by the amount of storm runoff received into the reservoir.

It is anticipated that the majority of these FAST operations will be similar to historic FAST operations and that fine sediment discharged during FAST operations will be transported to the Pacific Ocean via Arroyo Seco Channel and the Los Angeles River, either via discharge flow or subsequent storm flows.

Sediment Excavation/Trucking Offsite

Depending on the efficiency of the FAST operations, some mechanical excavation and trucking offsite may be required for removal of accumulated sediment. Sediment excavation/trucking offsite will use the same methods and trucking routes as the initial sediment removal activities. The need for future sediment removal will depend on future storm activity and associated sediment accumulation.

It is estimated, based on past storm events, that sediment excavation/trucking offsite will be required to remove average of 13,000 cy of sediment annually. Based on an estimated removal of 4,800 cy per day, it is expected this will occur over an estimated two-week period, Monday through Friday. This removal activity will take place during the late summer/early fall following the vegetation maintenance.

Moderately large sediment deposits have the potential to occur during a storm season, but it is anticipated that even with this type of event the newly deposited sediment could be removed in one season. A moderately large sediment removal event, anticipated to involve around 170,000 cy, could take place over an estimated 12-week period during the late summer/early fall following the vegetation maintenance.

Option 2 – Reduced Management Area

Under Option 2, the reservoir will be maintained with the approximate cut and elevation levels shown in Figure 2.5-5: Proposed Project, Configuration A Excavation Area and Reduced Management Area, Option 2 through the following activities. This will involve the area from the dam to elevation 1,040 feet, approximately 3,283 feet north of the dam, every year for a total management area of approximately 91 acres.

Vegetation Maintenance

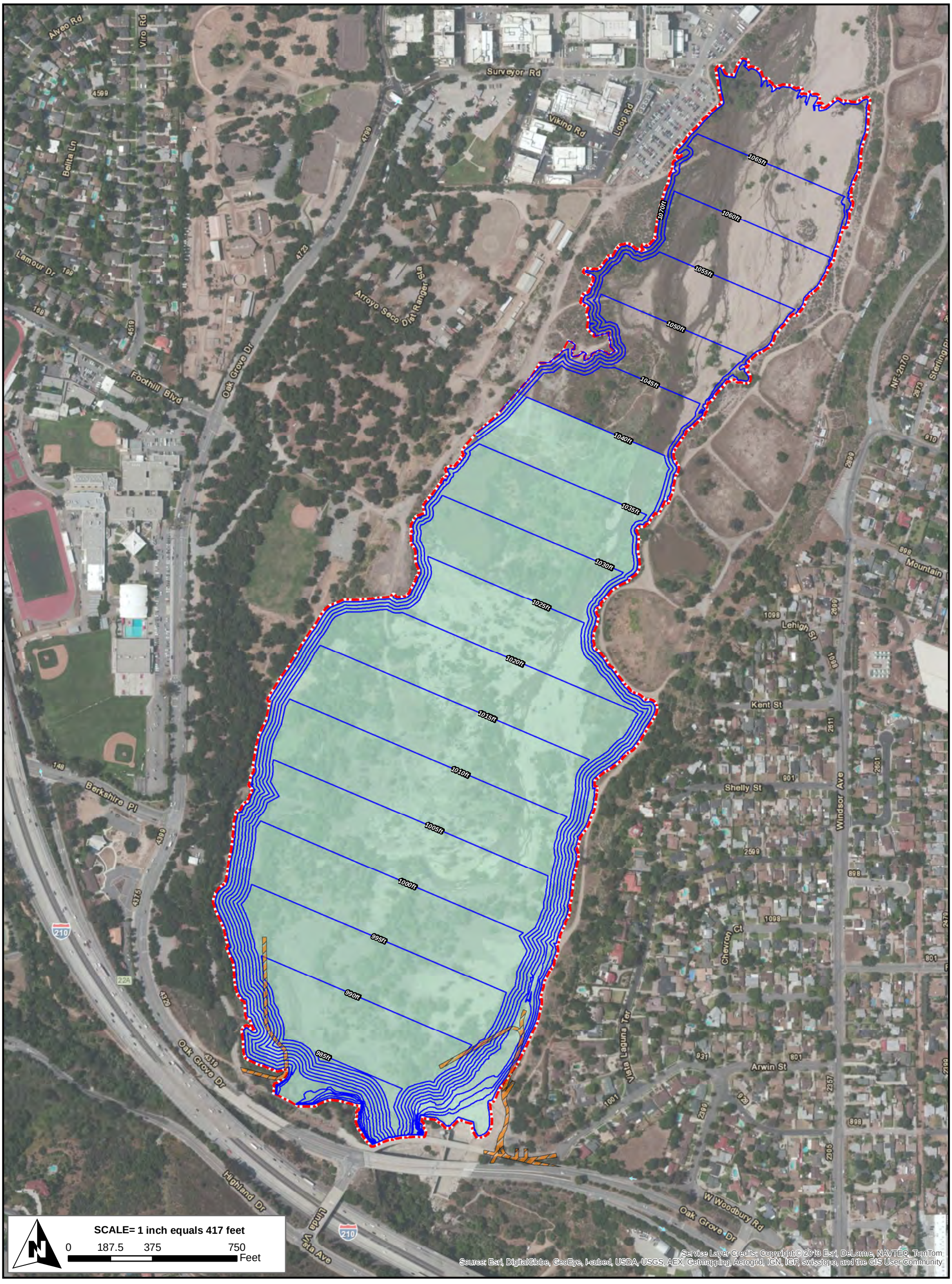
Vegetation within the reservoir management footprint will be mowed or removed and grubbed annually. These activities will occur Monday through Friday over an estimated three-week period in the late summer or early fall. All vegetation and sediment outside the reservoir management footprint will be allowed to naturally re-establish and/or remain in place.

Flow-Assisted Sediment Transport (FAST)

Maintenance FAST operations will take place as described for Option 1.

Sediment Excavation/Trucking Offsite

Maintenance mechanical excavation and trucking offsite will take place as described for Option 1 within the reservoir management footprint. Sediment deposits and natural vegetation growth above the reservoir management footprint will be allowed to remain in place.



Proposed Project Boundary

Access Road

Reservoir Management Area

Sediment Removal Excavation Limit

Figure 2.5-5

Excavation Area and Reduced Management Area, Option 2

Proposed Project - Configuration A

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\\Cgi-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.5-5 Proposed Project, Configuration A Excavation Area and Reduced Management Area, Option 2.mxd

Figure 2.5-6
Devil's Gate Reservoir Sediment Removal and Management Project
Access Roads Map

Version Date: 10/18/2013

Proposed Project Boundary
Access Road

SCALE= 1 inch = 125 feet

0 50 100 200
Feet

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\\Cgh-gisdata01\gis_data\Projects\20000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.5-6 Access Roads Map.mxd

Reservoir Management Phase Duration

Regardless of the option chosen, the proposed annual management routine to remove all sediment and vegetation within the reservoir management footprint will help reduce buildup of sediment in the reservoir management area. A large-scale sediment removal project will be required if a significant amount of sediment accumulates in the reservoir despite the management activities. This is not anticipated for a period of over two decades unless significant major fires and/or storms occur within the watershed. If future reservoir conditions threaten dam operations, LACFCD will initiate the planning process for a new large-scale sediment removal project. Part of this planning will involve utilizing the CEQA process to evaluate and determine the appropriate level of environmental document required for the future project.

2.6 ENVIRONMENTAL COMMITMENTS

The Proposed Project lies within the boundaries of the County of Los Angeles and shall conform to the following requirements:

- Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities Therein, except the City of Long Beach (Order No. 01-182, NPDES No. CAS004001).

- Other applicable federal, State, and local requirements.

2.7 BEST MANAGEMENT PRACTICES

To reduce potential impacts to erosion and water quality, the Proposed Project would be conducted in accordance with applicable standards and BMPs. The Proposed Project will also conform to the requirements in the latest edition of the LACDPW "Construction Site Best Management Practices Manual" (BMP Manual). The following environmental safeguards will be implemented as part of the Proposed Project:

- No project equipment-related materials (i.e., waste, spills, or residue) shall be discharged from the project site to streets, drainage facilities, receiving waters, or adjacent property by wind or runoff.

- Non-storm water runoff from equipment, vehicle washing, or any other activity shall be contained within the project site using appropriate BMPs.

- Erosion from exposed topsoil slopes and channels shall be prevented.

- Grading will be minimized during the wet season. All erosion susceptible slopes along the borders of excavation or reservoir management areas shall be covered, planted, or protected in any way that prevents erosion of susceptible slopes.

- If the project may be active during the rainy season (October 15 through April 15), the Contractor shall prepare an accumulated precipitation procedure (APP) for review and approval by the LACFCD Engineer before any discharge from the project. The APP shall describe the location of proposed discharges, the BMPs to prevent pollution, and the actual equipment to be

used. The APP shall be prepared and submitted in accordance with BMP NS-2 and the LACDPW Construction Site BMPs Manual (BMP Manual) Section 7.

2.8 REQUIRED PERMITS AND APPROVALS

This section provides, to the extent the information is known to the LACFCD, the CEQA Lead Agency, a list of the agencies that are expected to use this EIR in their decision making and a list of permits and other approvals required to implement the project.

2.8.1 Lead Agency Approval

The Final EIR must be certified by the County of Los Angeles Board of Supervisors (Board) as to its adequacy in complying with the requirements of CEQA before taking any action on the Proposed Project. The Board will consider the information contained in the EIR in making a decision to approve or deny the Devil's Gate Reservoir Sediment Removal and Management Project (Proposed Project). The analysis in the EIR is intended to provide a full disclosure of the Proposed Project's potential environmental impacts in accordance with CEQA requirements.

2.8.2 Other Required Permits and Approvals

A Responsible Agency is a public agency, other than the lead agency, that has discretionary approval authority over a project. The Responsible Agencies, and their corresponding approvals, for this project include the following:

- California Department of Fish and Wildlife (CDFW) – Section 1600 Streambed Alteration Agreement
- California Regional Water Quality Control Board (RWQCB)– Section 401 Water Quality Certification
- United States Army Corps of Engineers (USACE) – Section 404 Permit

2.8.3 Reviewing Agencies

Reviewing Agencies include those agencies that do not have discretionary powers but that may review the EIR for adequacy and accuracy. Potential Reviewing Agencies include the following:

State of California

- Office of Historic Preservation
- Department of Transportation (Caltrans)
- Department of Conservation, Division of Oil, Gas and Geothermal Resources
- Native American Heritage Commission (NAHC)
- California Highway Patrol

Regional Agencies

- Southern California Association of Governments (SCAG)
- South Coast Air Quality Management District (SCAQMD)

- City of Pasadena
- City of La Cañada Flintridge
- City of Azusa
- City of Irwindale
- City of Los Angeles

2.9 CUMULATIVE SCENARIO

Cumulative impacts refer to the combined effect of Proposed Project impacts with the impacts of other past, present, and reasonably foreseeable future projects. Both CEQA and the CEQA Guidelines require that cumulative impacts be analyzed in an EIR. As set forth in the CEQA Guidelines, the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. As stated in CEQA, "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable."

It should be noted that:

> "The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."

Cumulative impact discussions for each issue area are provided in the technical analyses contained within Chapter 3 (Environmental Analysis).

As previously stated, and as set forth in the CEQA Guidelines, related projects consist of, "closely related, past, present, and reasonable foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area." The "list" approach was used for the cumulative impacts discussion in this EIR.

While the cumulative project's list establishes approved, proposed, or reasonably foreseeable projects to consider in combination with the Proposed Project, the cumulative setting varies for each environmental factor. The cumulative setting is established specific to each environmental factor based on the nature and extent of the resource or issue. Some environmental factors such as hazards and hazardous materials will be highly localized. In contrast, environmental factors such as air quality and greenhouse gases emissions may be regional in nature. In most cases, a geographic scope (in distance from the Proposed Project site) is identified.

The majority of the lands adjacent to the study area are already highly urbanized. The ability to develop new projects within or adjacent to the study area is limited. Based on input from the Cities of Pasadena, La Cañada Flintridge, Los Angeles, Azusa, Irwindale, and the community of Altadena, the following area projects were identified, as shown in Table 2.9-1: Cumulative Projects.

Figure 2.9-1: Cumulative Projects Map shows the approximate location of these projects.

- Hahamongna Watershed Park Multi-Benefit/Multi-Use (MBMU) Project
- Caltech/NASA - Jet Propulsion Laboratory (JPL) On-Site Parking Structure

- Temporary Use of the Rose Bowl Stadium by the National Football League (NFL)
- Azusa Material Recovery Facility and Waste Transfer Station Project
- Metro Gold Line Foothill Extension
- Arroyo Seco Canyon Project

Table 2.9-1: Cumulative Projects

No.	Project Name	Lead Agency	Project Location	Distance from Proposed Project Site	Summary Project Description	Status
1	HWP Multi Benefit/Multi-Use Project	City of Pasadena	Hahamongna Watershed Park Master Plan Area Oak Grove Drive and Foothill Boulevard, Pasadena, CA	Adjacent	The project includes improvements outlined in the Arroyo Seco Master Plan including: Westside Perimeter Trail, restoration of Berkshire Creek, Oak Grove Field restroom, Foothill Drain Improvements, and expanded parking area.	Project Description is under review, and environmental review process will restart once scope of work is fully known.
2	NASA JPL On-Site Parking Structure	NASA	NASA JPL 4800 Oak Grove Drive, Pasadena, CA	Adjacent	This project involves construction of an onsite parking structure in the NASA JPL facility to accommodate approximately 1,093 parking spaces.	In construction phase
3	Temporary Use of the Rose Bowl Stadium by the NFL	City of Pasadena	Rose Bowl Stadium 1001 Rose Bowl Dr, Pasadena, CA	2 miles	The project would amend the Arroyo Seco Public Lands Ordinance to allow an additional 13 displacement events to occur annually at the Rose Bowl for a total of 25 displacement events. No construction is involved. The amendment would allow the additional use no sooner than the 2013-2014 NFL season for a period of five years.	Project approved

Table 2.9-1: Cumulative Projects

No.	Project Name	Lead Agency	Project Location	Distance from Proposed Project Site	Summary Project Description	Status
4	Azusa Material Recovery Facility and Waste Transfer Station Project	City of Azusa	1211 West Gladstone Street, Azusa, CA	16 miles	The project involves the construction of a 110,000-square-foot LEED-certified facility. The project involves both a materials recovery facility to process recyclable materials and a waste transfer station to manage municipal solid waste.	In construction phase, expected to continue until 2014.
5	Metro Gold Line Foothill Extension	Metro	Azusa Citrus Station will be located at: 1101 N Citrus Avenue, Azusa	18 miles	The project includes the expansion of the Metro Gold Line from Azusa to Montclair, and will include 12.6 miles of new alignment and six new stations.	Under construction, expected to be completed in 2015.
6	Arroyo Seco Canyon Project	City of Pasadena Water and Power	Hahamongna Watershed Park At the spreading grounds and East Arroyo Parking Lot on the eastern edge of the reservoir.	Adjacent	Project elements include rehabilitation of intake structure, installation of a public restroom, removal of unused water facilities, habitat restoration, and improving passive recreational opportunities.	In conceptual design phase
7	Devil's Gate Water Conservation Project	LACFCD	Devil's Gate Dam and adjacent	Adjacent	The project includes installing a pump and intake on the upstream face of Devil's Gate Dam. A 5-mile pipeline will be constructed from the pump easterly to transfer water to Eaton Wash.	In conceptual design phase

Figure 2.9.1
Devil's Gate Reservoir
Cumulative Projects Map

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Proposed Project Boundary

Cumulative Project Locations

NASA JPL On-Site Parking Structure

Arroyo Seco Canyon Project

Hahamongna Watershed Park MBMU Project

Devil's Gate Water Conservation Project

Temporary Use of the Rose Bowl Stadium by the NFL

Azusa Material Recovery Facility & WasteTransfer Station Project

Metro Gold Line Foothill Extension

SCALE= 1 inch equals 2 miles

0 1.5 3 6

Miles

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\\Cgi-gisdata01\gis_data\Projects\2000s\20201 - 20400\20346 Devil's Gate EIR\20346 Figure 2.9.1 Cumulative Projects Map.mxd