

**Addendum to Final Environmental Impact Report  
SCH No. 2004081151**

**Lower Reach River Supply Conduit  
Project**



Los Angeles Department of Water and Power  
Environmental Affairs  
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Los Angeles, California 90012

**July 2020**

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## **1.0 PROJECT BACKGROUND**

The Headworks flow control station (also referred to as a pressure regulator station) was originally addressed in accordance with the California Environmental Quality Act (CEQA) in the Environmental Impact Report (EIR) for the Los Angeles Department of Water and Power (LADWP) Lower Reach River Supply Conduit (RSC) Project (SCH #2004081151). The Final EIR for the Lower Reach RSC Project was certified (Certified EIR) by the Board of Water and Power Commissioners on February 21, 2006, and the CEQA Notice of Determination (NOD) for the project was filed on February 22, 2006.

The Lower Reach RSC Project replaces an existing potable water trunk line that was installed in the 1940s. The new water line will increase system reliability, transmission capacity, and resiliency as well as allow for higher operating pressure to meet California Department of Health Services drinking water regulations. The Lower Reach RSC covers a length of approximately 7 miles, beginning north of Griffith Park and ending at Silver Lake Reservoir in the City of Los Angeles (see Figure 1). For construction purposes, the Lower Reach was divided into five separate units: 1A, 1B, 2, 3, and 4.

The Headworks flow control station will be located within a segment of Unit 1A that will run parallel to Forest Lawn Drive and along the southern perimeter of the former Headworks Spreading Grounds. Headworks Spreading Grounds is a 43-acre site owned by the City of Los Angeles located along the northwest edge of Griffith Park.

## 2.0 CHANGES IN PROJECT SETTING

The Headworks Spreading Grounds property is also the location of the Headworks Reservoir East and Headworks Reservoir West, two new approximately 55-million-gallon buried concrete drinking water reservoirs constructed since certification of the Lower Reach RSC Final EIR. Headworks Reservoir East was completed in 2014, and Headworks Reservoir West was completed in 2020. The Headworks reservoir storage was originally addressed in the LADWP Silver Lake Reservoir Complex Storage Replacement Project EIR (SCH #2003081133), the NOD for which was filed on May 18, 2006.

To facilitate the coordination of the construction of the various facilities within the Headworks Spreading Grounds property, the installation of RSC Unit 1A, including the flow control station, has been included with the Headworks reservoirs construction effort. The eastern segment of RSC Unit 1A was installed during the construction of Headworks Reservoir East. With the recent completion of Headworks Reservoir West, the western segment of RSC Unit 1A, within which the flow control station will be located, is estimated to begin construction in the fall of 2020. The western segment of Unit 1A will join with the previously installed eastern segment of Unit 1A, southwest of Headworks Reservoir East, and extend westerly to join with the future Upper Reach RSC Unit 7 at the western end of the Headworks property.

### 2.1 Refinements in Project

In the Certified EIR, the western segment of Unit 1A was located conceptually along the south perimeter of the Headworks Spreading Grounds property. This general alignment of the pipeline has since been further refined to place it within a proposed 20-foot wide paved internal access road, approximately 100 feet north of the Headworks property southern boundary fence (see Figure 2). The access road and the pipeline will be located in areas already fully disturbed by construction activities at the property. The western segment of Unit 1A will be installed via open-trench construction methods, consistent with the assumptions in the Certified EIR. This segment of trunk line was described in the Certified EIR as 96 inches in diameter. The currently proposed trunk line will be 78 inches in diameter, reducing the amount of excavation and backfill required to install the line in comparison to what was analyzed in the Certified EIR.

In the Certified EIR, the proposed flow control station was described as follows (LADWP Lower Reach River Supply Conduit Project Draft EIR, page 2-8):

[Flow control] stations are used in water supply systems to control pressure in the pipelines. A typical station is located in an underground vault and consists of several parallel pipes, or legs, that branch off the main pipeline. These pipe legs are smaller than the main pipeline and have regulator valves installed, which control pressure by how much the valve is opened or closed. Ancillary equipment is also required for the vault and may include lines valves, power, ventilation, and pumps. Additionally, a relief station consisting of a vault and valve system in an underground vault is needed in the event that the regulator valve fails. The relief valve would open to control the downstream pipe pressure.

As part of the Lower Reach RSC pipeline construction, a [flow control] station would be built underground inside a vault, with approximate dimensions of 45 feet by 25 feet, within the

Headworks Spreading Grounds site. This station would consist of approximately five smaller pipe legs (two 24-inch and three 16-inch legs). Each pipeline would have a control valve, which would be operated as necessary to maintain the pressure requirements downstream within the Lower Reach RSC pipeline.

The purpose and physical description of the flow control station remain essentially consistent with the Certified EIR assumptions. However, the five smaller pipe legs will now consist of two 30-inch legs and three 20-inch legs (see Figure 3). This change is minor and not considered consequential relative to the creation of potential environmental impacts. In the Certified EIR, the flow control station was conceptually located along the Unit 1A trunk line segment in the western end of the Headworks property. The currently proposed location of the station places it at the site of an existing paved construction administration area in the western part of the Headworks property, generally consistent with the assumption in the Certified EIR (see Figure 2).

### **3.0 ADDENDUM PURPOSE AND NEED**

Even given the consistency of the current project plans for the Lower Reach RSC Unit 1A trunk line and flow control station with those described and analyzed in the 2006 Certified EIR, this addendum has been prepared to fulfill the requirement of the California State Water Resources Control Board (SWRCB) that all CEQA documents supporting a Financial Assistance Application for the Clean/Drinking Water SRF be less than 5 years old at the time the financing agreement for the project is executed. In accordance with CEQA Guidelines Section 15164, based on the fact that only minor technical refinements have occurred to the Lower Reach RSC Unit 1A and flow control station since the certification of the EIR and approval of the project, and that these refinements, when considered in the context of the current setting, do not invalidate the analyses conducted or conclusions reached in the Certified EIR, an addendum to the EIR is the appropriate level of CEQA documentation for the purpose of the SRF application.

## **4.0 ENVIRONMENTAL ASSESSMENT**

As discussed below, none of the impacts related to the construction or operation of Unit 1A or the flow control station would increase substantially in severity beyond what was identified in the Certified EIR nor would any previously unidentified significant impacts occur. As applicable, all best management practices (BMPs) and mitigation measures specified in the Certified EIR for the purpose of avoiding or reducing a significant environmental impact would still apply to the construction and operation of the western segment of Unit 1A and the flow control station.

### **4.1 Aesthetics**

As discussed in the Certified EIR, there would be no impacts created by the project related to scenic vistas and State scenic highways because the project would not be located as to affect such resources. There would be a less than significant impact related to degradation of the visual character of the project site and surroundings because the vast majority of project facilities would be located underground, with only minor appurtenant structures located above grade. With regard to nighttime lighting, the project would create temporary significant impacts during construction, but these impacts would be reduced to a less than significant level with the application of specified mitigation measures. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to aesthetic resources remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to aesthetics.

### **4.2 Agricultural Resources**

As discussed in the Certified EIR, there would be no impacts created by the project to agricultural resources because no Farmland, land zoned for agricultural use, or land subject to Williamson Act contracts exists within the project area. Furthermore, no aspect of the project would result in the conversion of Farmland to non-agricultural use. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to land use, including agricultural use, remains as described in the Certified EIR. Therefore, there would be no new impacts related to agricultural resources.

### **4.3 Air Quality**

As discussed in the Certified EIR, there would be no impacts created by the project related to conflicts with an applicable air quality plan because the project would be consistent with regional growth projections and would comply with all rules and regulations intended to reduce air pollutant emissions. Impacts to air quality during project operations would be less than significant, related only to periodic and relatively minor maintenance activities. Less than significant impacts would occur during project construction related to the creation of objectionable odors, which would be produced by the operation of heavy equipment and trucks. Temporary but unavoidable significant impacts, regardless of the application of mitigation

measures, were identified related to the generation of emissions that would exceed South Coast Air Quality Management District thresholds, the creation of a cumulatively considerable net increase in air emissions in the region, and the exposure of sensitive receptors to substantial pollutant concentrations. These unavoidable impacts would result from the operation of heavy equipment, the excavation of soil necessary for pipeline installation, and worker and truck trips during the construction of the project. An updated analysis for regional mass daily emissions generated during construction activities was conducted in July 2020 based on the most recent models, emission factors, and ambient air quality conditions, without modifying the original parameters for project construction (i.e., equipment operations, truck trips, passenger vehicle trips, excavation volumes, etc.). As previously discussed, the construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. The updated air quality analysis concluded that construction-related criteria pollutant emissions would be lower than indicated in the Certified EIR. However, emissions of oxides of nitrogen (NO<sub>x</sub>) would still exceed the applicable threshold and would remain significant and unavoidable (see Appendix A). This is consistent with the conclusions contained in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to air quality in relation to the construction and operation of Unit 1A and the flow control station.

#### **4.4 Biological Resources**

As discussed in the Certified EIR, there would be no impacts created by the project related to adverse affects on federally protected wetlands or conflicts with an approved conservation plan. Potentially significant impacts were identified related to adverse affects on special status species, adverse affects on riparian habitat and other sensitive natural communities, interference with the movement of migratory species and with wildlife nurse sites, and conflicts with local ordinances protecting biological resources. However, these impacts would be reduced to a less than significant level with the application of specified mitigation measures. An updated biological resource assessment for the Headworks property was prepared in July 2020 (see Appendix B). The assessment noted conditions at the Headworks property similar to those indicated in the Certified EIR, with the exception of the additional anticipated disturbance that has occurred on site from the construction of the Headworks reservoirs. As previously discussed, the construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. Unit 1A and the flow control station would be located in fully disturbed areas of the property. The flow control station would be located on the site of an existing paved construction administration area. The updated biological assessment concluded that with the application of the mitigation measures specified in the Certified EIR, impacts to biological resources would be reduced to a less than significant level. Therefore, there would be no new impacts or an increase in previously identified impacts related to biological resources in relation to the construction and operation of Unit 1A and the flow control station.

#### **4.5 Cultural Resources**

As discussed in the Certified EIR, there would be no impacts created by the project related to a substantial adverse change in the significance of an historical resource. Potentially significant impacts were identified related to substantial adverse changes in the significance of unique archaeological resources, the destruction of unique paleontological resources, and the disturbance of human remains. However, these impacts would be reduced to a less than significant level with the application of specified mitigation measures. An updated cultural resources evaluation for the Headworks property was prepared in June 2020 (see Appendix C). The evaluation noted conditions at the Headworks property similar to those indicated in the Certified EIR, with the exception of the additional anticipated disturbance that has occurred on site from the construction of the Headworks reservoirs. As previously discussed, the construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. Unit 1A and the flow control station would be located in fully disturbed areas of the property. The flow control station would be located on the site of an existing paved construction administration area. The updated cultural resources investigation concluded that with the application of the mitigation measures specified in the Certified EIR, impacts to cultural resources would be reduced to a less than significant level. Therefore, there would be no new impacts or an increase in previously identified impacts related to cultural resources in relation to the construction and operation of Unit 1A and the flow control station.

#### **4.6 Geology and Soils**

As discussed in the Certified EIR, there would be no impacts created by the project related to landslides, soil erosion or loss of topsoil, unstable or expansive soils, or alternative wastewater disposal systems because of the nature of the project and/or the project setting. There would be a less than significant impact related to strong seismic ground shaking. Potentially significant impacts were identified in the Certified EIR related to the rupture of a known earthquake fault and seismic related ground failure. However, these impacts would be reduced to a less than significant level with the application of specified mitigation measures. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to geologic and soil conditions remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to geology and soils.

#### **4.7 Hazards and Hazardous Materials**

As discussed in the Certified EIR, there would be no impacts created by the project related to safety hazards associated with the operations of nearby public airports or private airstrips because of the nature and location of the project. There would be less than significant impacts related to the routine handling of hazardous materials, the release of hazardous materials within one-quarter mile of a school, the impairment of emergency response or evacuation, and the risk associated with wildland fires. Potentially significant impacts were identified related to upset and accident conditions involving the release of hazardous materials and the potential for conflict

with existing known hazardous materials sites. However, these impacts would be reduced to a less than significant level with the application of specified mitigation measures. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to potentially hazardous conditions remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to hazards and hazardous materials.

#### **4.8 Hydrology and Water Quality**

As discussed in the Certified EIR, there would be no impacts created by the project related to locating structures within a flood hazard area because the project facilities are located underground. There would be less than significant impacts related to groundwater depletion, substantial alteration of surface drainage patterns, exposure of people to significant risk from flooding, and inundation and mudflows. Potentially significant impacts were identified related to water quality, wastewater discharge requirements, and polluted runoff associated with wastewater created from pipeline hydrostatic testing during construction. However, these impacts would be reduced to a less than significant level with the application of the specified mitigation measure. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to hydrological conditions and surface water resources remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to hydrology and water quality.

#### **4.9 Land Use and Planning**

As discussed in the Certified EIR, there would be no impacts created by the project related to a conflict with a habitat or natural community conservation plan because of the location of the project. There would be less than significant temporary impacts related to the division of existing communities and conflicts with local land use plans and policies during the construction phase of the project. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to land use and planning remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to land use and planning.

#### **4.10 Mineral Resources**

As discussed in the Certified EIR, there would be no impacts created by the project related to the loss of availability of mineral resources because no such resources were identified within the project alignment. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the



flow control station in relation to mineral resources remains as described in the Certified EIR. Therefore, there would be no new impacts related to the loss of availability of mineral resources.

#### **4.11 Noise**

As discussed in the Certified EIR, there would be no impacts created by the project related excessive noise levels from public airports or private airstrips because the project would not be located within 2 miles of such facilities. During project operations, there would be less than significant impacts related to noise generation in excess of standards; a permanent, temporary, or periodic increase in ambient noise levels; and excessive groundborne vibration and noise because project facilities would be located underground. As discussed in the Certified EIR, this would apply to the flow control station, which would be housed in an underground concrete vault. Therefore, noise and vibration emanating from the station would be indiscernible at the nearest sensitive receptors, the Forest Lawn and Mount Sinai memorial parks and mortuaries, located along the south side of Forest Lawn Drive. Potentially significant impacts were identified related to noise generation in excess of standards; a temporary or periodic increase in ambient noise levels; and excessive groundborne vibration and noise created by project construction activities. However, these impacts would be reduced to a less than significant level with the application of specified mitigation measures. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to the noise environment remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to noise.

#### **4.12 Population and Housing**

As discussed in the Certified EIR, there would be no impacts created by the project related to the inducement of substantial population growth in the area or the displacement of existing housing or people because the project would replace existing water trunk lines and would be located in the public right of way. It would not induce population growth through the need for new employees or result in new housing. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the conditions related to area population and the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to population and housing remains as described in the Certified EIR. Therefore, there would be no new impacts related to population and housing.

#### **4.13 Public Services**

As discussed in the Certified EIR, there would be no impact created by the project related to maintaining adequate public services, including fire protection, police protection, schools, parks, or other public facilities because the project facilities would be located underground, and the project would not induce population growth through the need for new employees or result in new housing. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing conditions related to public services in the area remain essentially as

described in the Certified EIR. Therefore, there would be no new impacts related to public services.

#### **4.14 Recreation**

As discussed in the Certified EIR, there would be no impact created by the project related to the increased use of recreational facilities because the project would not directly or indirectly induce population growth. There would be a less than significant impact related to the construction or expansion of new recreation facilities. The construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to recreation facilities and use remains as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to recreation.

#### **4.15 Transportation and Traffic**

As discussed in the Certified EIR, there would be no impacts created during project operations because project facilities would be located underground and/or out of the public road right of way. During project construction, there would be no impact related to changes in air traffic patterns or safety risk because the project facilities would not be located near a public airport or private airstrip. Potentially significant impacts were identified in relation to increased road safety hazards and emergency access during construction, but these impacts would be reduced to a less than significant level with the application of specified mitigation measures. Temporary but unavoidable significant impacts, regardless of the application of mitigation measures, were identified related to substantial increases in traffic congestion, exceedance of level of service standards, parking deficiencies, and conflicts with public transit services. All these impacts are generally related to the partial closure of traffic lanes, the full closure of certain road segments, and the associated detours necessary to install the trunk line. However, the construction of the western segment of Unit 1A, including the flow control station, would take place entirely within the Headworks property and out of the public right of way. Therefore, the impacts related to partial or full road closures would not generally apply to the construction of Unit 1A and the flow control station. Nonetheless, the construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing setting of the site and surroundings of Unit 1A and the flow control station in relation to the transportation network remains generally as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to transportation and traffic.

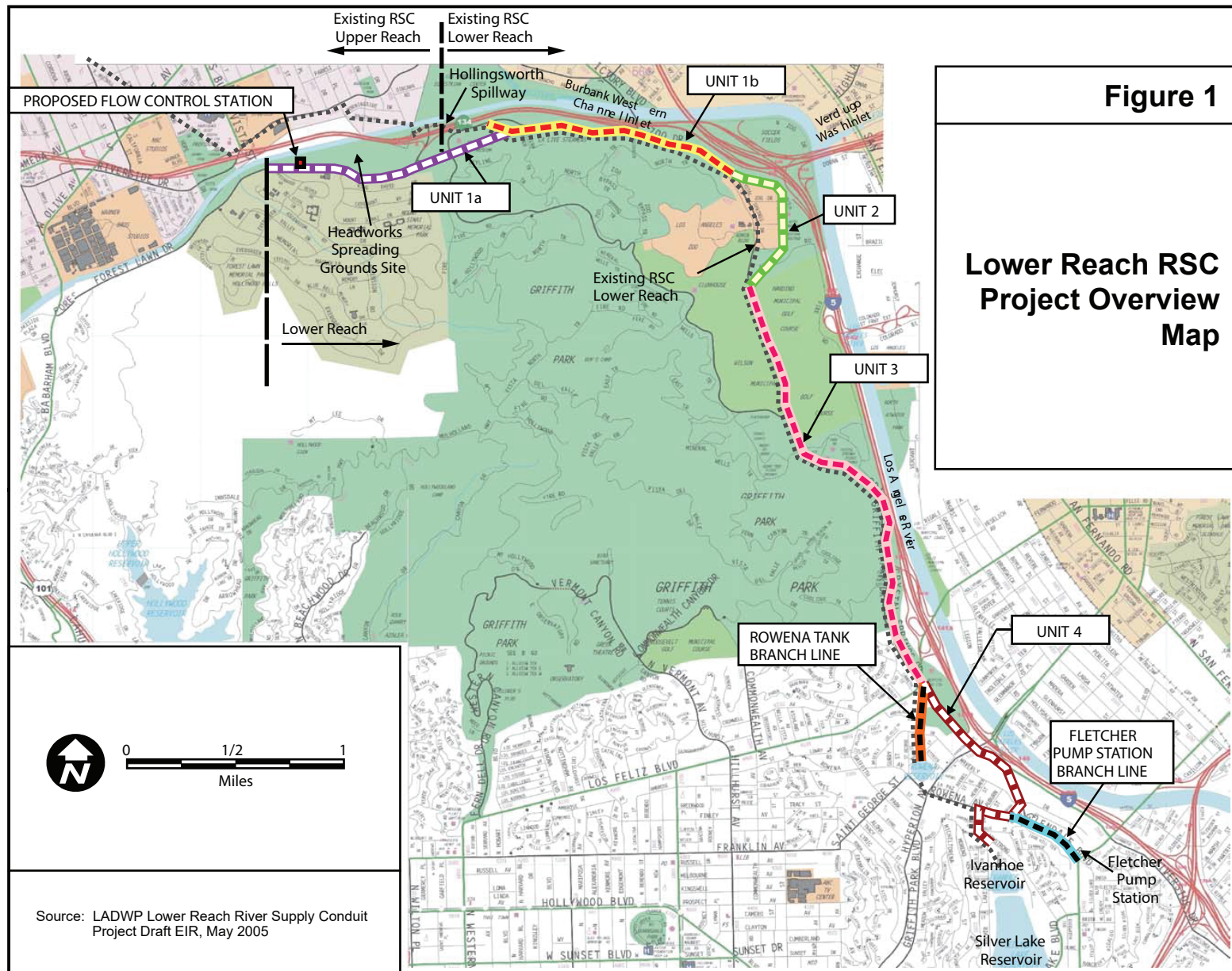
#### **4.16 Utilities and Service Systems**

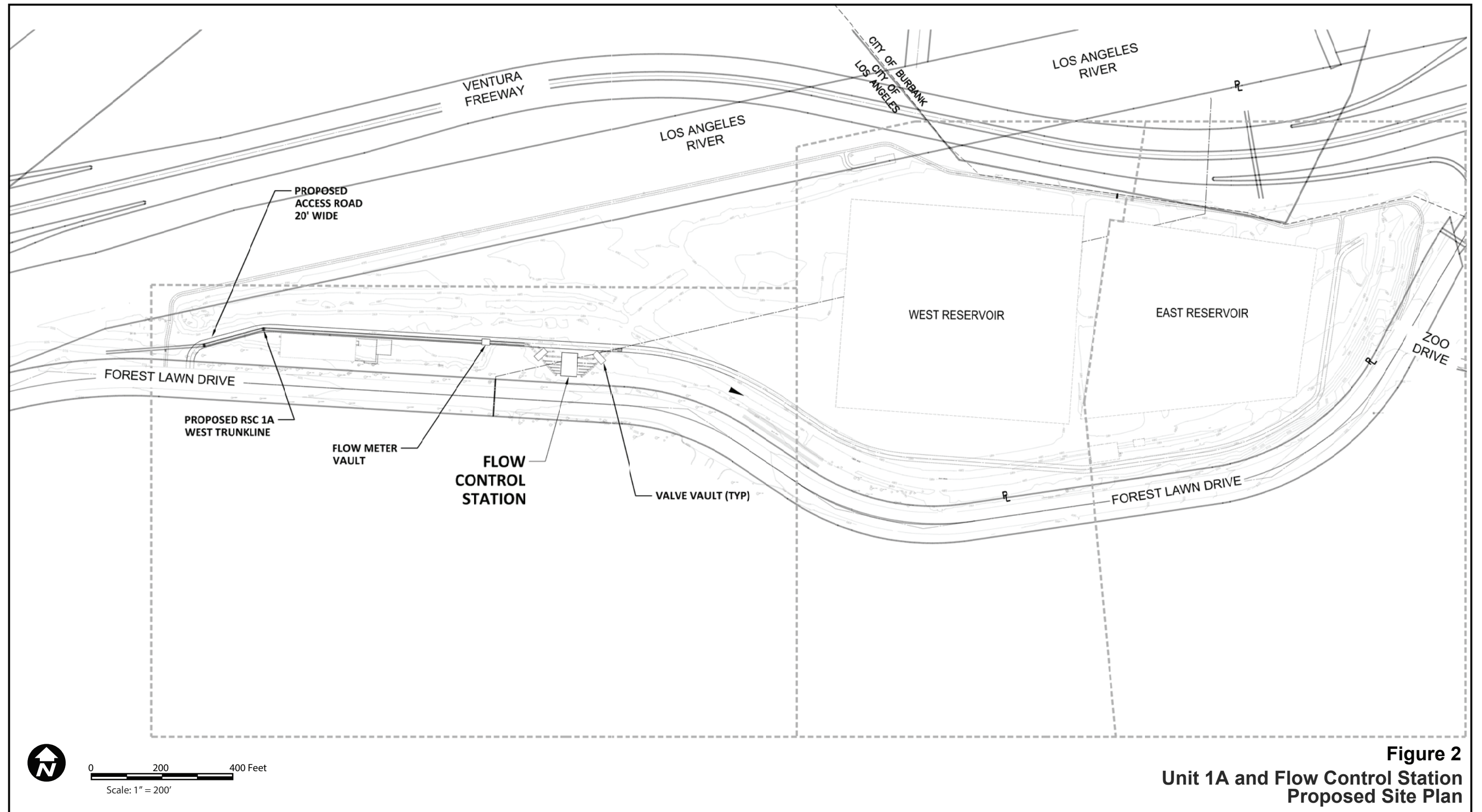
As discussed in the Certified EIR, there would be no impacts created by the project related to water supplies, wastewater treatment capacity, or compliance with solid waste disposal regulations. Less than significant impacts were identified related to exceedance of wastewater treatment requirements, the construction of new or expanded water or wastewater treatment facilities, the construction of new or expanded storm water drainage facilities, and the capacity of local landfills to accommodate the projects solid waste needs. The construction and operation

of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR. In addition, the existing conditions in relation utilities and service systems remains essentially as described in the Certified EIR. Therefore, there would be no new impacts or an increase in previously identified impacts related to utilities and service systems.

## **5.0 CONCLUSIONS AND DETERMINATION**

As detailed in the analysis presented above, this addendum supports the conclusion that the construction and operation of the western segment of the Lower Reach RSC Unit 1A and the flow control station would not result in any new significant environmental effects or a substantial increase in the severity of significant effects previously identified in the Certified EIR. No new information has become available and no substantial changes to the circumstances under which the overall project is being undertaken have occurred since certification of the EIR. No substantial changes are proposed in the project which will require major revisions of the Certified EIR. There are no new mitigation measures required, and no new alternatives are available that would substantially reduce the environmental effects beyond those previously described in the Certified EIR. Therefore, no subsequent or supplemental EIR is required.

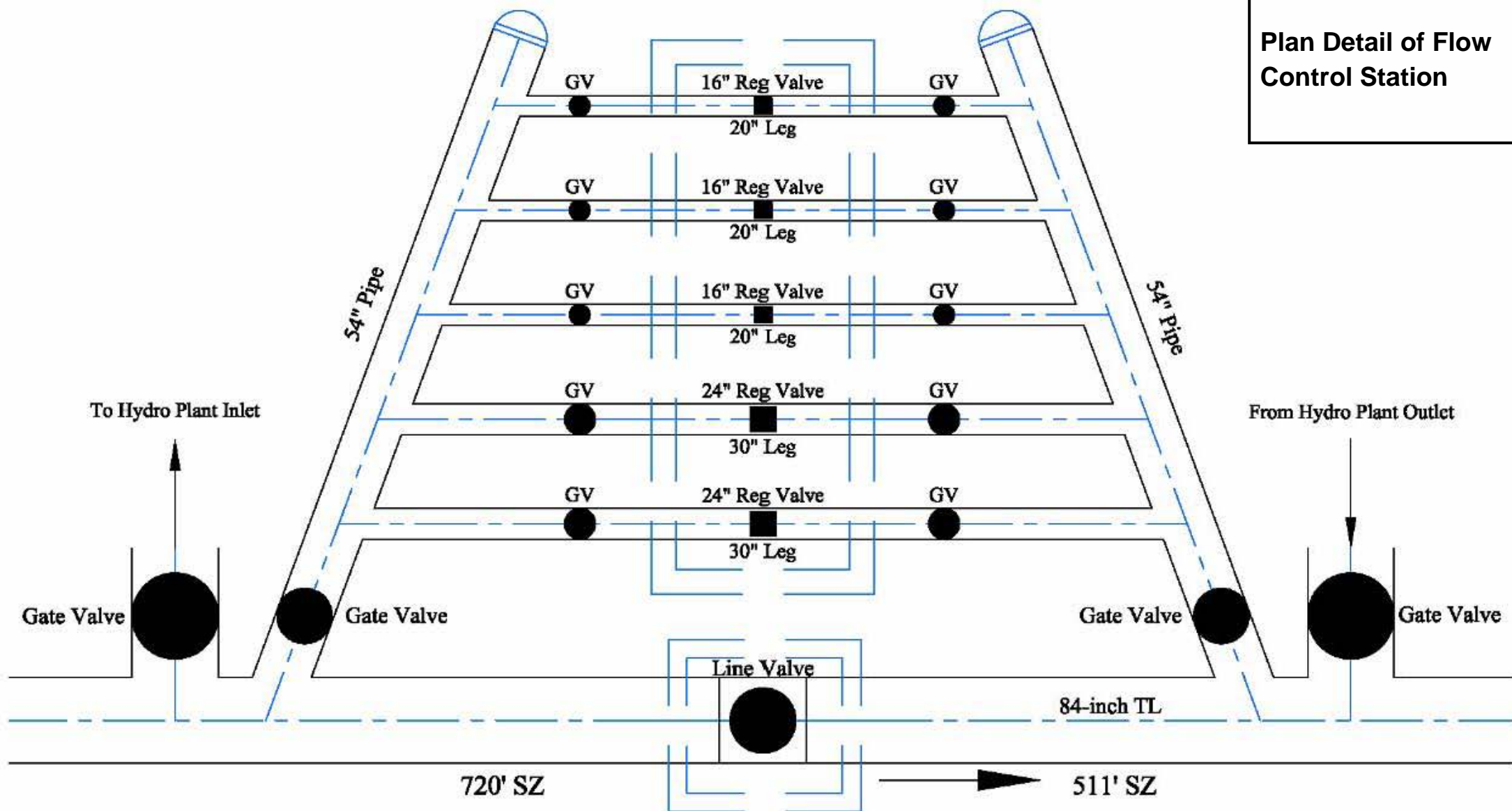






**Figure 3**

**Plan Detail of Flow Control Station**



## **APPENDIX A**

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### **Air Quality Technical Study**





**AIR QUALITY TECHNICAL STUDY  
FOR THE  
LOWER REACH RSC PROJECT  
EIR ADDENDUM**

***Prepared for:***

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## **SECTION 1**

### **INTRODUCTION**

#### **1.1 PROJECT BACKGROUND**

The Headworks flow control station (also referred to as a pressure regulator station) was originally addressed in accordance with the California Environmental Quality Act (CEQA) in the Environmental Impact Report (EIR) for the Los Angeles Department of Water and Power (LADWP) Lower Reach River Supply Conduit (RSC) Project (SCH #2004081151). The Final EIR for the Lower Reach RSC Project was certified (Certified EIR) by the Board of Water and Power Commissioners on February 21, 2006, and the CEQA Notice of Determination (NOD) for the project was filed on February 22, 2006.

The Lower Reach RSC Project replaces an existing potable water trunk line that was installed in the 1940s. The new water line will increase system reliability, transmission capacity, and resiliency as well as allow for higher operating pressure to meet California Department of Health Services drinking water regulations. The Lower Reach RSC covers a length of approximately 7 miles, beginning north of Griffith Park and ending at Silver Lake Reservoir in the City of Los Angeles. For construction purposes, the Lower Reach was divided into five separate units: 1A, 1B, 2, 3, and 4.

The Headworks flow control station will be located within a segment of Unit 1A that will run parallel to Forest Lawn Drive and along the southern perimeter of the former Headworks Spreading Grounds. Headworks Spreading Grounds is a 43-acre site owned by the City of Los Angeles located along the northwest edge of Griffith Park.

The Headworks Spreading Grounds property is also the location of the Headworks Reservoir East and Headworks Reservoir West, two new approximately 55-million-gallon buried concrete drinking water reservoirs constructed since certification of the Lower Reach RSC Final EIR. Headworks Reservoir East was completed in 2014, and Headworks Reservoir West was completed in 2020. The Headworks reservoir storage was originally addressed in the LADWP Silver Lake Reservoir Complex Storage Replacement Project EIR (SCH #2003081133), the NOD for which was filed on May 18, 2006.

To facilitate the coordination of the construction of the various facilities within the Headworks Spreading Grounds property, the installation of RSC Unit 1A, including the flow control station, has been included with the Headworks reservoirs construction effort. The eastern segment of RSC Unit 1A was installed during the construction of Headworks Reservoir East. With the recent completion of Headworks Reservoir West, the western segment of RSC Unit 1A, within which the

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flow control station will be located, is estimated to begin construction in the fall of 2020. The western segment of Unit 1A will join with the previously installed eastern segment of Unit 1A, southwest of Headworks Reservoir East, and extend westerly to join with the future Upper Reach RSC Unit 7 at the western end of the Headworks property.

As described in more detail in Section 1.2, Refinements in Project below, the current project plans for the Lower Reach RSC Unit 1A trunk line and flow control station are consistent with those described and analyzed in the 2006 Certified EIR. However, due to the delayed timeframe between project approval and project construction, the air quality study prepared in support of the 2006 Certified EIR needs to be updated, per requirements of the California State Water Resources Control Board (SWRCB) that all CEQA documents supporting a Financial Assistance Application for the Clean/Drinking Water SRF be less than 5 years old at the time the financing agreement for the project is executed.

In accordance with CEQA Guidelines Section 15164, based on the fact that only minor technical refinements have occurred to the Lower Reach RSC Unit 1A and flow control station since the certification of the EIR and approval of the project, and that these refinements, when considered in the context of the current setting, do not invalidate the analyses conducted or conclusions reached in the Certified EIR, an addendum to the EIR is the appropriate level of CEQA documentation for the purpose of the SRF application. Therefore, the purpose of this air quality technical report is to update the air quality analysis in support of the addendum to the EIR and SRF application. The air quality study prepared in support of the 2006 Certified EIR (Appendix D – Air Pollutant Emission Calculations) is used as reference for this updated air quality analysis.

## **1.2 REFINEMENTS IN PROJECT**

In the Certified EIR, the western segment of Unit 1A was located conceptually along the south perimeter of the Headworks Spreading Grounds property. This general alignment of the pipeline has since been further refined to place it within a proposed 20-foot wide paved internal access road, approximately 100 feet north of the Headworks property southern boundary fence. The access road and the pipeline will be located in areas already fully disturbed by construction activities at the property. The western segment of Unit 1A will be installed via open-trench construction methods, consistent with the assumptions in the Certified EIR. This segment of trunk line was described in the Certified EIR as 96 inches in diameter. The currently proposed trunk line will be 78 inches in diameter, reducing the amount of excavation and backfill required to install the line in comparison to what was analyzed in the Certified EIR.

In the Certified EIR, the proposed flow control station was described as follows (LADWP Lower Reach River Supply Conduit Project Draft EIR, page 2-8):

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[Flow control] stations are used in water supply systems to control pressure in the pipelines. A typical station is located in an underground vault and consists of several parallel pipes, or legs, that branch off the main pipeline. These pipe legs are smaller than the main pipeline and have regulator valves installed, which control pressure by how much the valve is opened or closed. Ancillary equipment is also required for the vault and may include lines valves, power, ventilation, and pumps. Additionally, a relief station consisting of a vault and valve system in an underground vault is needed in the event that the regulator valve fails. The relief valve would open to control the downstream pipe pressure.

As part of the Lower Reach RSC pipeline construction, a [flow control] station would be built underground inside a vault, with approximate dimensions of 45 feet by 25 feet, within the Headworks Spreading Grounds site. This station would consist of approximately five smaller pipe legs (two 24-inch and three 16-inch legs). Each pipeline would have a control valve, which would be operated as necessary to maintain the pressure requirements downstream within the Lower Reach RSC pipeline.

The purpose and physical description of the flow control station remain essentially consistent with the Certified EIR assumptions. However, the five smaller pipe legs will now consist of two 30-inch legs and three 20-inch legs. This change is minor and not considered consequential relative to the creation of potential environmental impacts. In the Certified EIR, the flow control station was conceptually located along the Unit 1A trunk line segment in the western end of the Headworks property. The currently proposed location of the station places it at the site of an existing paved construction administration area in the western part of the Headworks property, generally consistent with the assumption in the Certified EIR.



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## **SECTION 2**

### **EXISTING CONDITIONS**

#### **2.1 CLIMATE, TOPOGRAPHY, AND METEOROLOGY**

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

Climate, topography, and meteorology influence regional and local ambient air quality. The project is located within the South Coast Air Basin that includes Orange County, and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAB is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east; and the San Diego County line to the south.

The local meteorology of the area is represented by measurements recorded at the Glendale Stapenhorst meteorological station (#043450). The normal annual precipitation, which occurs primarily from November through April, is approximately 16 inches. Normal January temperatures range from an average minimum of 40 degrees Fahrenheit (°F) to an average maximum of 65°F, and August temperatures range from an average minimum of 59°F to an average maximum of 87°F (WRCC 2020).

On occasion during fall and winter months, a high-pressure system develops over Nevada and Utah and pushes air south and southwestward over the San Gabriel and San Bernardino Mountains. The resulting wind is known as a Santa Ana wind. Santa Ana winds can be very strong, with wind speeds through mountain passes sometimes exceeding 62 miles per hour, and are usually warm and dry. They tend to clear the Basin of accumulated air pollutants, but can also cause dust storms and may result in high particulate levels.

The topographical features in the region around the project area restrict air movement through and out of the valley (especially in the northern portion). The San Gabriel and Santa Ana Mountains hinder wind access into the valley from the northwest, north, west, and southwest; the Agua Tibia range hinders winds from the south; and the San Bernardino and San Jacinto Mountains are

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significant barriers to the northeast, east, and southeast, causing a weak air flow through the valley. This weak air flow is also frequently blocked vertically by temperature inversions.

A common atmospheric condition known as a temperature inversion affects air quality in the South Coast Air Basin. During an inversion, air temperatures get warmer rather than cooler with increasing height. Inversion layers are important for local air quality, because they inhibit the dispersion of pollutants and result in a temporary degradation of air quality. The pollution potential of an area is largely dependent on a combination of winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, the atmospheric pollution potential is greatly reduced.

## **2.2 CRITERIA POLLUTANTS**

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) as being of concern both on a nationwide and statewide level: ozone; carbon monoxide (CO); nitrogen dioxide (NO<sub>2</sub>); sulfur dioxide (SO<sub>2</sub>); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM<sub>10</sub>) and PM equal to or less than 2.5 micrometers in diameter (PM<sub>2.5</sub>). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.”

*Ozone.* Ozone is the principal component of smog and is formed in the atmosphere through a series of reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. ROG and NO<sub>x</sub> are called precursors of ozone. NO<sub>x</sub> includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO<sub>2</sub>, and others. Ozone is a principal cause of lung and eye irritation in the urban environment. Significant ozone concentrations are usually produced only in the summer, when atmospheric inversions are greatest and temperatures are high. ROG and NO<sub>x</sub> emissions are both considered critical in ozone formation.

*Carbon Monoxide.* CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe

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vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections.

*Nitrogen Dioxide.* NO<sub>2</sub> is a product of combustion and is generated in vehicles and in stationary sources, such as power plants and boilers. It is also formed when ozone reacts with NO in the atmosphere. As noted above, NO<sub>2</sub> is part of the NO<sub>x</sub> family and is a principal contributor to ozone and smog generation.

*Sulfur Dioxide.* SO<sub>2</sub> is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO<sub>2</sub> is also a product of diesel engine combustion. SO<sub>2</sub> in the atmosphere contributes to the formation of acid rain.

*Lead.* Lead is a highly toxic metal that may cause a range of human health effects. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. EPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. Lead emissions have significantly decreased due to the near elimination of leaded gasoline use.

*PM.* PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of PM include windblown dust and ocean spray. The size of PM is directly linked to the potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems, such as heart attacks and irregular heartbeat (EPA 2007). Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. As previously discussed, EPA groups PM into two categories, which are described below.

*PM<sub>2.5</sub>.* Fine particles, such as those found in smoke and haze, are PM<sub>2.5</sub>. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. PM<sub>2.5</sub> is also formed through reactions of gases, such as SO<sub>2</sub> and nitrogen oxides, in the atmosphere. PM<sub>2.5</sub> is the major cause of reduced visibility (haze) in California.

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*PM*<sub>10</sub>. *PM*<sub>10</sub> includes both fine and coarse dust particles; the fine particles are *PM*<sub>2.5</sub>. Coarse particles, such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of *PM*<sub>10</sub> is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

## **2.3 AIR QUALITY STANDARDS**

Health-based air quality standards have been established for these criteria pollutants by EPA at the national level and by ARB at the state level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. A brief description of each criteria air pollutant is provided below along with the most current monitoring station data and attainment designations for the project study areas. Table 1 presents the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS).

## **2.4 SOUTH COAST AIR BASIN EXISTING AIR QUALITY**

Ambient air pollutant concentrations in the South Coast Air Basin are measured at air quality monitoring stations operated by ARB and the South Coast Air Quality Management District (SCAQMD). The closest air quality monitoring station to the project site is the Pasadena-S Wilson Avenue station. However, that monitoring station only collects data on concentrations of ozone, NO<sub>2</sub>, and *PM*<sub>2.5</sub>. Data for *PM*<sub>10</sub> was obtained from the Los Angeles-North Main Street air quality monitoring station. Data for CO was obtained from the West San Gabriel Valley (088) SCAQMD monitoring station. Table 2 presents the most recent data over the past 3 years from the monitoring station as summaries of the exceedances of standards and the highest pollutant levels recorded for years 2016 through 2018. These concentrations represent the existing, or baseline conditions, for the project, based on the most recent information available.

As shown in Table 2, ambient air concentrations of NO<sub>2</sub> at the monitoring station have not exceeded the NAAQS or CAAQS in the past 3 years. The 8-hour and 1-hour ozone NAAQS and CAAQS were exceeded in 2016 through 2018. The *PM*<sub>10</sub> concentrations did not exceed the NAAQS but did exceed the CAAQS in 2016 through 2018. The *PM*<sub>2.5</sub> concentration did not exceed the NAAQS in 2016 through 2018.

**Table 1**  
**National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>a</sup>	National Standards <sup>b</sup>	
		Concentration <sup>c</sup>	Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
Ozone <sup>l</sup>	1 hour	0.09 ppm (180 µg/m³)	–	Same as primary standard
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	
Respirable particulate matter (PM <sub>10</sub> ) <sup>f</sup>	24 hours	50 µg/m³	150 µg/m³	Same as primary standard
	Annual arithmetic mean	20 µg/m³	–	
Fine particulate matter (PM <sub>2.5</sub> ) <sup>f</sup>	24 hours	–	35 µg/m³	Same as primary standard
	Annual arithmetic mean	12 µg/m³	12 µg/m³	15 µg/m
Carbon monoxide (CO)	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	None
	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m³)	–	–
Nitrogen dioxide (NO <sub>2</sub> ) <sup>g</sup>	Annual arithmetic mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as primary standard
	1 hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	None
Sulfur dioxide (SO <sub>2</sub> ) <sup>h</sup>	Annual arithmetic mean	–	0.030 ppm (for certain areas) <sup>h</sup>	–
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas) <sup>h</sup>	–
	3 hours	—	–	0.5 ppm (1,300 µg/m³)
	1 hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	–
Lead <sup>i,j</sup>	30-day average	1.5 µg/m³	–	–
	Calendar quarter	–	1.5 µg/m³ (for certain areas) <sup>j</sup>	Same as primary standard
	Rolling 3-month average	–	0.15 µg/m³	
Visibility-reducing particles <sup>k</sup>	8 hours	See footnote j	No national standards	
Sulfates	24 hours	25 µg/m³		
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)		
Vinyl chloride <sup>i</sup>	24 hours	0.01 ppm (26 µg/m³)		

Notes: mg/m<sup>3</sup> = milligrams per cubic meter; ppb = parts per billion; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

<sup>a</sup> California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>b</sup> National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than 1. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards.

<sup>c</sup> Concentration expressed first in the units in which it was

1-hour standard to the California standards the units can be converted from 100 ppb to 0.100 ppm.

<sup>h</sup> On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO<sub>2</sub> national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm.

<sup>i</sup> ARB has identified lead and vinyl chloride as toxic air

Pollutant	Averaging Time	California Standards <sup>a</sup>	National Standards <sup>b</sup>	
		Concentration <sup>c</sup>	Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and reference pressure of 760 torr; (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.			contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.	
<sup>d</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.			<sup>j</sup> The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m <sup>3</sup> as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.	
<sup>e</sup> National Secondary Standards: The levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.			<sup>k</sup> In 1989, ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and the “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.	
<sup>f</sup> On December 14, 2012, the national annual PM <sub>2.5</sub> primary standard was lowered from 15 µg/m <sup>3</sup> to 12.0 µg/m <sup>3</sup> . The existing national 24-hour PM <sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m <sup>3</sup> , as was the annual secondary standard of 15 µg/m <sup>3</sup> . The existing 24-hour PM <sub>10</sub> standards (primary and secondary) of 150 µg/m <sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.			<sup>l</sup> On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.	
<sup>g</sup> To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. California standards are in units of ppm. To directly compare the national			Source: ARB 2016	

**Table 2**  
**Ambient Air Quality Summary**

Pollutant Standards	2016	2017	2018
<b>Carbon Monoxide (CO) <sup>a</sup></b>			
Maximum 8-hour concentration (ppm)	1	1.7	1.4
Maximum 1-hour concentration (ppm)	1.5	5.5	2.0
<b>Nitrogen Dioxide (NO<sub>2</sub>) <sup>b</sup></b>			
State/National maximum 1-hour concentration (ppb)	71/71.9	72/72.3	68/68.2
Annual Average (ppb)	15	15	14
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour/NAAQS 1-hour	0/0	0/0	0/0
<b>Ozone <sup>b</sup></b>			
State max 1-hour concentration (ppm)	0.126	0.139	0.112
State/National maximum 8-hour concentration (ppm)	0.091/0.090	0.100/0.100	0.091/0.090
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour (>0.09 ppm)	12	18	8
CAAQS 8-hour (>0.070 ppm)/NAAQS 8-hour (>0.070 ppm)	19/18	38/36	20/19
<b>Particulate Matter (PM<sub>10</sub>) <sup>c</sup></b>			
National maximum 24-hour concentration (µg/m <sup>3</sup> )	64.0	64.6	68.2
State maximum 24-hour concentration (µg/m <sup>3</sup> )	74.6	96.2	81.2
State annual average concentration (µg/m <sup>3</sup> )	*	*	34.0
<u>Measured Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>150 µg/m <sup>3</sup> )	0	0	0
CAAQS 24-hour (>50 µg/m <sup>3</sup> )	21	40	31
<b>Particulate Matter (PM<sub>2.5</sub>) <sup>b</sup></b>			
National maximum 24-hour concentration (µg/m <sup>3</sup> )	29.2	22.8	32.5
State maximum 24-hour concentration (µg/m <sup>3</sup> )	29.2	22.8	32.5
National annual average concentration (µg/m <sup>3</sup> )	9.5	9.6	10.2
State annual average concentration (µg/m <sup>3</sup> )	9.5	9.7	10.3
<u>Measured Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>35 µg/m <sup>3</sup> )	0	0	0

ppb = parts per billion; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

\*Insufficient data to determine the value.

<sup>a</sup> Data obtained from SCAQMD Air Quality Data Tables by Year for the West San Gabriel Valley (SCAQMD 2020)

<sup>b</sup> Data obtained from ARB iADAM: Air Quality Data Statistics at Pasadena-S Wilson Avenue station (ARB 2020)

<sup>c</sup> Data obtained from ARB iADAM: Air Quality Data Statistics at Los Angeles-North Main Street station (ARB 2020)



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## 2.5 SOUTH COAST AIR BASIN ATTAINMENT STATUS

Both EPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. In most cases, areas designated or redesignated as attainment must develop and implement maintenance plans, which are designed to ensure continued compliance with the standard.

In contrast to attainment, a “nonattainment” designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme). Finally, an unclassified designation indicates that insufficient data exist to determine attainment or nonattainment.

As shown in Table 3, the South Coast Air Basin is classified as attainment or maintenance under the NAAQS for all criteria air pollutants except ozone and PM<sub>2.5</sub>. The South Coast Air Basin is currently classified as a nonattainment area for the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

**Table 3**  
**South Coast Air Basin Attainment Designations**

<b>Pollutant</b>	<b>Federal</b>	<b>State</b>
Ozone (8-hr)	Extreme Nonattainment	Nonattainment
NO <sub>2</sub> (annual)	Attainment (Maintenance)	Attainment
NO <sub>2</sub> (1-hour)	Unclassifiable/Attainment	Attainment
CO	Attainment (Maintenance)	Attainment
PM <sub>10</sub> (annual)	Not applicable	Nonattainment
PM <sub>10</sub> (24-hour)	Attainment (Maintenance)	Nonattainment
PM <sub>2.5</sub> (annual)	Attainment (for 1997 standard) Serious Nonattainment (for 2012 standard)	Nonattainment
PM <sub>2.5</sub> (24-hour)	Serious Nonattainment (for 2006 standard)	Not applicable
SO <sub>2</sub>	Attainment	Attainment

Source: SCAQMD 2016

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## **SECTION 3**

### **REGULATORY FRAMEWORK**

#### **3.1 FEDERAL STANDARDS**

EPA, under the provisions of the Clean Air Act, requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. The SIP is not a single document, but a compilation of new and previously submitted attainment plans, emissions reduction programs, district rules, state regulations, and federal controls.

##### **General Conformity**

General conformity requires that all federal actions conform to the SIP as approved or promulgated by EPA. General conformity requirements were adopted by Congress as part of the Clean Air Act Amendments and were implemented by EPA regulations in the November 30, 1993 Federal Register (40 Code of Federal Regulations [CFR] Sections 6, 51, and 93: “Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule”).

The process to evaluate General Conformity for a proposed federal action involves an applicability analysis, conformity determination, and review. According to EPA guidance, the federal agency must apply the applicability requirements found at 40 CFR Section 93.153(b) to the federal action to evaluate whether, on a pollutant-by-pollutant basis, a determination of General Conformity is required. If the regulating federal agency determines that the General Conformity regulations do not apply to the federal action, no further analysis or documentation is required.

Analysis required by the General Conformity Rule focuses on the net increase in emissions compared to ongoing historical conditions. Existing SIPs are presumed to have accounted for routine, ongoing federal agency activities. Conformity analyses are further limited to those direct and indirect emissions over which the federal agency has responsibility and control. General Conformity analyses are not required to analyze emissions sources that are beyond the responsibility and control of the federal agency. Conformity determinations are not required to address emissions that are not reasonably foreseeable or reasonably quantifiable.

A federal action is exempt and considered to conform to the SIP if an applicability analysis shows that total direct and indirect net emissions from construction and operation of the action would be

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less than specified emission-rate thresholds, known as *de minimis* levels. The *de minimis* levels are based on the attainment/maintenance and nonattainment designations and classifications for the project area. If the emissions would exceed the *de minimis* levels, a formal air quality conformity determination is required.

### **Nonroad Sources and Emission Standards**

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, EPA established emission standards for hydrocarbons, NO<sub>x</sub>, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. This rule was issued under the authority in Section 213 of the Clean Air Act. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by EPA, as well as by ARB. Tier 1 emission standards became effective in 1996. The more stringent Tier 2 and Tier 3 emission standards became effective between 2001 and 2008, with the effective date dependent on engine horsepower. Tier 4 interim standards became effective between 2008 and 2012, and Tier 4 final standards became effective in 2014 and 2015. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards (EPA 2018).

### **Regulations for On-road Vehicles and Engines**

The EPA also has certain regulations for on-road vehicles and engines, including passenger vehicles, commercial trucks and buses, and motorcycles (EPA 2017). In 2001, the EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources. This rule was issued under the authority in Section 202 of the Clean Air Act. Passenger cars and trucks are regulated by EPA under "light-duty" vehicle programs. EPA regulates passenger vehicles to reduce the amount of harmful emissions. There are regulations for multiple aspects of passenger vehicles, including: standards for exhaust and evaporative emissions; control of hazardous air pollutants and air toxics; National Low Emission Vehicle Program; CAP 2000 (Compliance Assurance Program); onboard refueling vapor recovery; and inspection and maintenance.

### **Safer Affordable Fuel Efficient Vehicle Rule**

In September 2019, the National Highway Traffic Safety Agency (NHTSA) and the EPA published the Safer Affordable Fuel Efficient (SAFE) Vehicle Rule Part One: One National Program. The SAFE Part One Rule revokes California's authority and vehicle waiver to set its own emissions standards and set zero emission vehicle mandates in California for passenger cars and light trucks and establish new standards, covering model years 2021 through 2026. In April 2020, the EPA and NHTSA issued the second part of the proposed SAFE Vehicles Rule. This final

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rule is effective on June 29, 2020. During the period the federal action is in effect, the CARB will administer the affected portions of its program on a voluntary basis.

### **3.2 STATE STANDARDS**

ARB is the lead agency for developing the SIP in California. Local air districts and other agencies prepare Air Quality Attainment Plans or Air Quality Management Plans (AQMPs), and submit them to ARB for review, approval, and incorporation into the applicable SIP. ARB also maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by ARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

#### **California Clean Air Act and California Health and Safety Code Section 40914**

ARB is also responsible for implementing the California Clean Air Act. The California Clean Air Act was adopted in 1988 and requires ARB to establish the CAAQS (shown in Table 1). In most cases, CAAQS are more stringent than NAAQS. The California Clean Air Act requires that each area exceeding the CAAQS for ozone, CO, SO<sub>2</sub>, and NO<sub>2</sub> must develop a plan aimed at achieving those standards. The California Health and Safety Code, Section 40914, requires air districts to design a plan that achieves an annual reduction in district-wide emissions of 5 percent or more, averaged every consecutive 3-year period. To satisfy this requirement, the local air districts have to develop and implement air pollution reduction measures, which are described in their AQMPs, and outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

#### **In-Use Off-Road Diesel Vehicle Regulation, On-Road Light-Duty Certification, and California Reformulated Gasoline Program**

ARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both state and federal agencies. During the past decade, federal and state agencies have imposed numerous requirements on the production and sale of gasoline in California. ARB has also adopted control measures for diesel PM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

### **3.3 LOCAL STANDARDS**

The SCAQMD is the regional agency responsible for regulation and enforcement of federal, state, and local air pollution control regulations in the South Coast Air Basin. The SCAQMD operates

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monitoring stations in the South Coast Air Basin, develops and enforces rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, issues permits to construct and operate, and conducts source testing and inspections.

## **2016 Air Quality Management Plan**

The most recent Air Quality Management Plan (AQMP) was adopted by the SCAQMD in March 2017. The 2016 AQMP is the legally enforceable blueprint for how the region will meet and maintain state and federal air quality standards. The 2016 AQMP identifies strategies and control measures needed to achieve attainment of the 8-hour ozone standard and federal annual and 24-hour standards for PM<sub>2.5</sub> in the South Coast Air Basin (SCAQMD 2017). The 2016 AQMP also represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures.

## **SCAQMD Rules and Regulations**

Projects within the South Coast Air Basin are subject to SCAQMD rules and regulations. SCAQMD rules relevant to the Project include, but are not limited to:

- Rule 401 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- Rule 402 – Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust.

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The Project is required to comply with these rules, and conformance will be incorporated into project specifications and procedures.

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## SECTION 4

### ANALYSIS OF IMPACTS

#### 4.1 THRESHOLDS OF SIGNIFICANCE

Consistent with the thresholds of significance utilized in the Certified EIR, the updated air quality analysis, utilized the regional thresholds of significance established by the SCAQMD to determine if the Project refinements would result in a new or more severe impact than previously identified. As shown in Table 4, the SCAQMD has developed a threshold for evaluating PM<sub>2.5</sub> emissions, which had not been developed at the time of the Certified EIR. Therefore, this updated air quality analysis also evaluates PM<sub>2.5</sub> emissions associated with construction of the Project and compares the emissions to the maximum daily threshold recommended by SCAQMD.

**Table 4**  
**Regional Pollutant Emission Screening Level Thresholds of Significance**

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO <sub>x</sub>	100 lbs/day	55 lbs/day
ROG	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
CO	550 lbs/day	550 lbs/day

Note: lbs/day = pounds per day

Source: SCAQMD 2019.

Since the Project seeks to obtain financial assistance through the Clean/Drinking Water SRF, the Project would be subject to general conformity requirements. As described in Section 3.1, general conformity requires that all federal actions conform to the SIP as approved or promulgated by EPA. A federal action is exempt and considered to conform to the SIP if an applicability analysis shows that total direct and indirect net emissions from construction and operation of the action would be less than specified emission-rate thresholds, known as *de minimis* levels. The *de minimis* levels are based on the attainment/maintenance and nonattainment designations and classifications for the project area. The current General Conformity rule only applies to nonattainment or maintenance areas; therefore, the *de minimis* level for SO<sub>2</sub> is not applicable to the Project (the South Coast Air Basin is designated as attainment for SO<sub>2</sub>). If the emissions would exceed the *de minimis* levels, a formal air quality conformity determination is required. The applicable *de minimis* levels for the Project emissions generated in the South Coast Air Basin are shown in Table 5 and are used to determine if the Project would be subject to a general conformity determination.



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**Table 5**  
**Applicable General Conformity *De minimis* Levels**

<b>Pollutant</b>	<b><i>De minimis</i> Levels (tons/year)</b>
CO	100
SO <sub>2</sub>	N/A
NO <sub>x</sub>	10
ROG	10
PM <sub>10</sub>	100
PM <sub>2.5</sub>	70

Notes: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases

Source: 40 CFR Part 93

## **4.2 METHODOLOGY**

Construction of the Project would result in the temporary generation of ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. ROG, NO<sub>x</sub>, and CO emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled by construction vehicles on- and offsite.

Assumptions for off-road diesel construction equipment, heavy-duty trucks, and worker trips required during Project construction were obtained from the 2006 Certified EIR and the associated Appendix D - Air Pollutant Emission Calculations. Since construction and operation of the western segment of Unit 1A and the flow control station will not vary substantively from what was described and analyzed in the Certified EIR, the updated air quality analysis was performed without modifying the original parameters for project construction (e.g., equipment operations, vehicle trips, excavation volumes). Consistent with the Certified EIR, the analysis assumed a maximum daily construction activity scenario would consist of four concurrent active trench construction areas and three concurrent active jacking/MTBM construction areas. Construction of Unit 1A is anticipated to take approximately 60 total work weeks. It is anticipated construction activities would primarily occur Monday through Friday and not occur on holidays. As such, in order to estimate annual emissions, the analysis conservatively assumed the maximum daily emissions scenario would occur every day for approximately 240 days in a year<sup>1</sup>. This is a conservative assumption as the intensity of the construction activities will vary day to day and are

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<sup>1</sup> The analysis assumed 240 workdays in a given year based on 260 weekdays minus 20 days of holidays.

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not anticipated to require four concurrent active trench construction areas and three concurrent active jacking/MTBM construction areas year-round.

The 2006 Certified EIR used emission factors from ARB's EMFAC2002 to estimate emissions from on-road equipment. The 2006 Certified EIR used emission and fuel factors from EPA's Guidance Document "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition" to estimate emissions from off-road equipment. Since the 2006 EIR was certified, the ARB has developed the OFFROAD emissions database which can be used to calculate emissions from off-road construction equipment and has also updated the ARB EMFAC tool several times. Further, the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts developed the California Emissions Estimator Model (CalEEMod), a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions from construction and operation of projects. CalEEMod incorporates the recommended ARB and EPA EMFAC and OFFROAD emissions databases.

The 2006 Certified EIR also assumed the construction equipment fleet mix would contain Tier 1 engines. However, as discussed in Section 3, during the past decade, EPA and ARB have imposed several regulations on off-road equipment with the purpose of reducing PM and NO<sub>x</sub> emissions by requiring timely equipment fleet turnover and prohibiting the purchase of older tiered engines for equipment fleets. Therefore, emissions from off-road and on-road equipment associated with construction of the Project were updated using CalEEMod, which incorporates assumptions for the typical statewide equipment fleet mix for construction occurring in the 2020 calendar year. See Appendix A for additional details and methodology.

Consistent with the 2006 Certified EIR methodology, fugitive dust emissions were estimated for wind erosion of active construction areas, material unloading, grading, and excavator trenching activities. Emissions were estimated using EPA's Compilation of Air Pollutant Factors (AP-42), ARB emission inventory, and SCAQMD methodology. See Appendix A for additional details and methodology.

This analysis also does not directly evaluate lead because little to no quantifiable and foreseeable emissions of these substances would be generated by the Project. Lead emissions have significantly decreased due to the near elimination of leaded fuel use.

### 4.3 PROJECT IMPACTS

This section determines whether the Project refinements would cause a new or more severe air quality impact than identified in the Certified EIR.

#### *Construction*

Table 6 shows the maximum daily emissions for construction of the Project from the 2006 Certified EIR. As shown in Table 6, emissions of VOC, CO, and SO<sub>x</sub> would not exceed the thresholds of significance. However, emissions of NO<sub>x</sub> and PM<sub>10</sub> would exceed the recommended thresholds of significance and result in a significant and unavoidable impact. PM<sub>2.5</sub> emissions were not estimated in the 2006 Certified EIR<sup>2</sup>.

**Table 6**  
**2006 Certified EIR Project – Estimated Daily Construction Emissions**

Description	Criteria Pollutant Emissions (pounds/day)					
	VOC/ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions	57.28	593.67	372.61	5.07	247.58	N/A
Daily Thresholds	75	100	550	150	150	55
Exceed Thresholds?	No	Yes	No	No	Yes	N/A

Source: LADWP 2006

As discussed in Section 4.2, construction emissions for the Project were revised based on more recent methodology. Table 7 shows the updated maximum daily emissions associated with construction of the Project.

**Table 7**  
**Updated Project Analysis – Estimated Daily Construction Emissions**

Emission Source	Criteria Pollutant Emissions (pounds/day)					
	VOC/ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions <sup>1</sup>	27.42	397.36	186.88	0.97	33.17	12.57
Daily Thresholds	75	100	550	150	150	55
Exceed Thresholds?	No	Yes	No	No	No	No

Notes: Consistent with the emissions in Table 3.2-6 of the Certified EIR, the emissions assume implementation of SCAQMD Rule 403 fugitive dust reduction requirements as detailed in Section 5.

Source: Modeled by AECOM 2020

As shown in Table 7, based on the revised emission factors and updated methodology, the daily construction-related emission estimates are lower than the emissions estimated in the 2006

<sup>2</sup> At the time of preparation of the 2006 analysis, the SCAQMD had not established PM<sub>2.5</sub> thresholds as it was in the beginning stages of becoming a regulated pollutant in the air district.

Certified EIR. This is due to improvements in equipment technology and fleet turnover due to regulatory requirements. Consistent with the findings of the 2006 Certified EIR, the Project construction-related emissions of VOC, SO<sub>x</sub>, and CO would not exceed the thresholds of significance and would not violate air quality standards or contribute substantially to an existing or projected air quality violation. PM<sub>2.5</sub> emissions associated with construction of the Project would also not exceed the SCAQMD threshold of significance and would not violate air quality standards or contribute substantially to an existing or projected air quality violation. In addition, based on the revised emission factors and updated methodology, construction-related emissions of PM<sub>10</sub> would no longer exceed the maximum daily threshold. However, although emissions of NO<sub>x</sub> would also be lower than the emissions estimated in the 2006 Certified EIR, maximum daily construction-related emissions of NO<sub>x</sub> would continue to exceed the applicable mass emissions threshold. Therefore, the air quality impacts of construction of the Project would be no greater than those identified by the 2006 Certified EIR and no new or more severe significant impacts would occur.

As described previously, since the Project seeks to obtain financial assistance through the Clean/Drinking Water SRF, the Project would be subject to general conformity requirements and the annual *de minimis* levels would be applicable to the construction-related emissions. However, the 2006 Certified EIR did not estimate annual construction emissions. Therefore, for purposes of comparison to the updated report and methodology, annual emissions were estimated using the maximum daily emissions estimates in the 2006 Certified EIR based on the methodology discussed in Section 4.2 (maximum daily emissions multiplied by 240 days of construction in a year). Table 8 presents the annual emissions based on the maximum daily estimates in the 2006 Certified EIR. Table 9 presents annual emissions based on the updated Project analysis.

**Table 8**  
**2006 Certified EIR Project – Estimated Annual Construction Emissions**

Emission Source	Criteria Pollutant Emissions (tons)					
	VOC/ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Estimated Annual Emissions based on 2006 Certified EIR	6.87	71.24	44.71	0.61	29.71	N/A
Applicable <i>De minimis</i> Levels	10	10	100	N/A	100	70
<b>Exceed Thresholds?</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>No</b>	<b>N/A</b>

As shown in Table 8, the estimated annual emissions of NO<sub>x</sub> from the 2006 Certified EIR would exceed the General Conformity *de minimis* levels.

**Table 9**  
**Updated Project Analysis – Estimated Annual Construction Emissions**

Emission Source	Criteria Pollutant Emissions (tons)					
	VOC/ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Estimated Annual Emissions – Updated Project	3.26	48.19	22.27	0.12	3.94	1.50
Applicable <i>De minimis</i> Levels	10	10	100	N/A	100	100
<b>Exceed Thresholds?</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>No</b>	<b>No</b>

Source: Modeled by AECOM 2020.

As shown in Table 9, based on the updated analysis, annual construction-related emissions of VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would not exceed the applicable *de minimis* levels. The estimated annual NO<sub>x</sub> emissions would still exceed the General Conformity *de minimis* level. However, where the action involves regional water and/or wastewater projects, conformity will be determined provided that such projects are sized to meet only the needs of population projections that are in the applicable SIP. According to Section 93.158(a)(5)(v), if the Project is sized to meet the population projections in the SIP, the NO<sub>x</sub> emissions associated with the Project would meet the General Conformity requirements. Since the Project replaces an existing potable water trunk line that is sized to meet the population projections in the SIP, a formal conformity analysis would not be required.

### *Operations*

As described in the 2006 Certified EIR, once operational the Project would not result in local emissions above those currently generated by the existing Lower Reach RSC pipeline system. The current Project plans for the trunk line and flow control station are consistent with those described and analyzed in the 2006 Certified EIR. Therefore, operational emissions associated with the Project would be less than significant and no new or more severe significant impacts would occur.

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## **SECTION 5**

### **MITIGATION MEASURES**

The following mitigation measures were included in the 2006 Certified EIR:

**AQ-1** LADWP shall implement the following measures, in addition to/or as required by SCAQMD Rule 403, to reduce PM10 emission during construction:

- Ground cover will be replaced in disturbed areas as quickly as possible;
- Active sites will be watered at least twice daily;
- All dirt hauling trucks will have tightly secured coverings;
- Trenching and excavation activities will be suspended during first and second stage smog alerts, and when wind speeds exceed 25 mph;
- After clearing, trenching, earth moving, or excavation is completed, the entire area of disturbed soil will be treated. Treatment, which will also occur during non-work days if necessary, will include watering, revegetating, or use of soil binders to prevent wind pick-up of the soil until the area is paved or otherwise developed to preclude dust generation and dispersion;
- Construction management techniques, including reducing the number of pieces of equipment used simultaneously and increasing the distance between the emission sources, will be employed as feasible to reduce potential emissions; and
- Street sweeping or washing will be performed at the conclusion of each workday and when needed.

**AQ-2** LADWP shall implement the following mitigation measures to reduce NO<sub>x</sub> and PM10 emissions from non-road construction vehicles during construction:

- Tier 1 mobile construction equipment shall be used on-site;
- Construction equipment shall be maintained in tune per manufacturer's specifications;
- California Air Resources Board certified ultra low sulfur diesel fuel containing 15 ppm sulfur or less shall be used for on-site mobile and stationary construction equipment; and
- Diesel engine idle time shall be restricted to no more than five minutes, except for construction equipment that needs to be maintained at idle to perform.

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## SECTION 6 REFERENCES

### California Air Resources Board (ARB)

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Western Regional Climate Center (WRCC)

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**APPENDIX A**

**EMISSIONS ESTIMATES**

MAXIMUM DAILY EMISSIONS						
Unmitigated	VOC	NOx	CO	SO2	PM10 Total	PM2.5 Total
	lbs/day					
Maximum Daily Off-Road and On-Road Daily Emissions	27.42	397.36	186.88	0.97	24.68	12.24
Excavator Trenching Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					14.35	0.33
Material Unloading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					2.89	0.44
Finish Grading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					1.25	0.06
Wind Erosion Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.65	0.10
Total Emissions	27.42	397.36	186.88	0.97	43.82	13.16
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	Yes	No	No	No	No
Mitigated	VOC	NOx	CO	SO2	PM10 Total	PM2.5 Total
	lbs/day					
Maximum Daily Off-Road and On-Road Daily Emissions	27.42	397.36	186.88	0.97	24.68	12.24
Excavator Trenching Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					6.46	0.15
Material Unloading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.49	0.07
Finish Grading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					1.25	0.06
Wind Erosion Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.29	0.04
Total Emissions	27.42	397.36	186.88	0.97	33.17	12.57
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	Yes	No	No	No	No

Workdays Per Year  
Pounds Per Ton

240  
2000

ANNUAL EMISSIONS						
Unmitigated	VOC	NOx	CO	SO <sub>2</sub>	PM10 Total	PM2.5 Total
	tons/year					
Annual Off-Road and On-Road Emissions	3.26	48.19	22.27	0.12	2.93	1.46
Excavator Trenching Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					1.72	0.04
Material Unloading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.35	0.05
Finish Grading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.15	0.01
Wind Erosion Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.08	0.01
Total Emissions	3.26	48.19	22.27	0.12	5.22	1.57
De minimis level	10	10	100	N/A	100	70
Exceeds Threshold?	No	Yes	No	No	No	No
Notes:						
Fugitive dust annual emissions estimated multiplying the maximum daily emissions by						
Mitigated	VOC	NOx	CO	SO <sub>2</sub>	PM10 Total	PM2.5 Total
	tons/year					
Annual Off-Road and On-Road Emissions	3.26	48.19	22.27	0.12	2.93	1.46
Excavator Trenching Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.77	0.02
Material Unloading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.06	0.01
Finish Grading Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.15	0.01
Wind Erosion Fugitive Dust (Lower Supply DEIR) <sup>1,2</sup>					0.03	0.01
Total Emissions	3.26	48.19	22.27	0.12	3.94	1.50
SCAQMD Threshold	10	10	100	N/A	100	70
Exceeds Threshold?	No	Yes	No	No	No	No
Notes:						
Fugitive dust annual emissions estimated multiplying the maximum daily emissions by						

## Fugitive Dust Emission Calculations

UNMITIGATED			
Excavator Trenching			
Formula (lb/CY) $E = (0.0021)(d^{0.7})/(M^{0.3})$	Value	Unit/Notes	
PM10 Scaling Factor	0.75		
PM2.5 Scaling Factor	0.017		
d = drop height =	5 ft		
M = moisture content =	3.40 % Moisture Content of Exposed Ground (Table 13.2.4-1)		
E (PM10) emission factor	0.003366014 lb/CY		
E (PM2.5) emission factor	7.62963E-05 lb/CY		
Excavator Excavating Rate	773 CY/day	Project estimate trenching construction area (2006 EIR)	
Mining Excavator Rate	3,092 CY/day	Four active trench pipeline construction areas	
	390 CY/day	Project tunneling construction area	
	1,170 CY/day	Three active tunneling construction areas	
Total Daily Excavation Rate	4,262 CY/day		
Daily PM10 Emissions	14.35 lbs/day		
Daily PM2.5 Emissions	0.33 lbs/day		
Source: AP-42, Table 11.9-1 and 2006 EIR			

Material Unloading			
Formula (lb/ton) $E = (K)(0.0032)((U/5)^{1.3}/((M/2)^{1.4}))$	Value	Unit/Notes	
k = particle size constant =	0.35 for PM10		
k = particle size constant =	0.053 for PM2.5		
U = average wind speed =	4.92 mph (based on CalEEMod default wind data of 2.2 mph)		
M = moisture content =	3.40 % Moisture Content of Exposed Ground (Table 13.2.4-1)		
E (PM10) emission factor	0.00052 lb/ton		
E (PM2.5) emission factor	0.00008 lb/ton		
Daily Unloading Rate	4,262 CY/day	Based on excavator trenching assumptions	
	5540.6 tons/day	Assumes 2600 lbs/CY for moist soil	
Daily PM10 Emissions	2.89 lbs/day		
Daily PM2.5 Emissions	0.44 lbs/day		
Source: AP-42, p.13.2.4-4 and 2006 EIR			

Finish Grading			
Formula (lb/VMT) $E = (0.051)(S^{2.0})$	Value	Unit/Notes	
S = mean vehicle speed =	3 mph (estimated based on 2006 EIR)		
PM10 Scaling Factor	0.6 Table 11.9-1		
PM2.5 Scaling Factor	0.031 Table 11.9-1		
E (PM10) emission factor	0.2754 lb/VMT		
E (PM2.5) emission factor	0.014229 lb/VMT		
Daily Travel Estimate	4.55 VMT/day	Based on 2006 EIR Estimate of 80 feet/day, 60 passes, 4 pipeline areas	
Daily PM10 Emissions	1.25 lbs/day		
Daily PM2.5 Emissions	0.06 lbs/day		
Source: AP-42, p. 11.9-1 and 2006 EIR			

Wind Erosion of Active Construction Areas			
	Value	Unit/Notes	
Level 2 Emission Factor =	0.011 PM 10 ton/acre-month		
Construction Schedule =	0.733333333 lbs/acre-day (based on 30 days/month)		
	1.6835E-05 lbs/scf-day		
Area of Construction =	38400 Based on 2006 EIR 160 feet active length, 40 foot width, 6 equiv. pipeline areas		
Daily PM10 Emissions	0.65 lbs/day		
Daily PM2.5 Emissions	0.10 lbs/day	Based on AP-42 13.2.5-3 Ratio of PM2.5 to PM10	
Source: "Improvement of Specific Emission Factors (BACM Project No. 1), Final Report", prepared for South Coast AQMD by Midwest Research Institute, March 1996, EPA AP-42 13.2.5-3, and 2006 EIR			

MITIGATED			
Excavator Trenching			
Formula (lb/CY) $E = (0.0021)(d^{0.7})/(M^{0.3})$	Value	Unit/Notes	
PM10 Scaling Factor	0.75		
PM2.5 Scaling Factor	0.017		
d = drop height =	5 ft		
M = moisture content =	3.40 % Moisture Content of Exposed Ground (Table 13.2.4-1)		
E (PM10) emission factor	0.001514706 lb/CY	Applies 55% reduction for watering twice per day	
E (PM2.5) emission factor	3.43333E-05 lb/CY		
Excavator Excavating Rate	773 CY/day	Project estimate trenching construction area (2006 EIR)	
Mining Excavator Rate	3,092 CY/day	Four active trench pipeline construction areas	
	390 CY/day	Project tunneling construction area	
	1,170 CY/day	Three active tunneling construction areas	
Total Daily Excavation Rate	4,262 CY/day		
Daily PM10 Emissions	6.46 lbs/day		
Daily PM2.5 Emissions	0.15 lbs/day		
Source: AP-42, Table 11.9-1 and 2006 EIR			

Material Unloading			
Formula (lb/ton) $E = (K)(0.0032)((U/5)^{1.3}/((M/2)^{1.4}))$	Value	Unit/Notes	
k = particle size constant =	0.35 for PM10		
k = particle size constant =	0.053 for PM2.5		
U = average wind speed =	4.92 mph (based on CalEEMod default wind data of 2.2 mph)		
M = moisture content =	12.00 % Moisture Content of Moist Soil for loading and unloading based on SCAQMD XI-A Table		
E (PM10) emission factor	0.00009 lb/ton		
E (PM2.5) emission factor	0.00001 lb/ton		
Daily Unloading Rate	4,262 CY/day	Based on excavator trenching assumptions	
	5540.6 tons/day	Assumes 2600 lbs/CY for moist soil	
Daily PM10 Emissions	0.49 lbs/day		
Daily PM2.5 Emissions	0.07 lbs/day		
Source: AP-42, p.13.2.4-4 and 2006 EIR			

Finish Grading			
Formula (lb/VMT) $E = (0.051)(S^{2.0})$	Value	Unit/Notes	
S = mean vehicle speed =	3 mph (estimated based on 2006 EIR)		
PM10 Scaling Factor	0.6 Table 11.9-1		
PM2.5 Scaling Factor	0.031 Table 11.9-1		
E (PM10) emission factor	0.2754 lb/VMT		
E (PM2.5) emission factor	0.014229 lb/VMT		
Daily Travel Estimate	4.55 VMT/day	Based on 2006 EIR Estimate of 80 feet/day, 60 passes, 4 pipeline areas	
Daily PM10 Emissions	1.25 lbs/day		
Daily PM2.5 Emissions	0.06 lbs/day		
Source: AP-42, p. 11.9-1 and 2006 EIR			

Wind Erosion of Active Construction Areas			
	Value	Unit/Notes	
Level 2 Emission Factor =	0.011 PM 10 ton/acre-month		
Construction Schedule =	0.733333333 lbs/acre-day (based on 30 days/month)		
	7.57576E-06 lbs/scf-day	Applies 55% reduction for watering twice per day	
Area of Construction =	38400 Based on 2006 EIR 160 feet active length, 40 foot width, 6 equiv. pipeline areas		
Daily PM10 Emissions	0.29 lbs/day		
Daily PM2.5 Emissions	0.04 lbs/day	Based on AP-42 13.2.5-3 Ratio of PM2.5 to PM10	
Source: "Improvement of Specific Emission Factors (BACM Project No. 1), Final Report", prepared for South Coast AQMD by Midwest Research Institute, March 1996, EPA AP-42 13.2.5-3, and 2006 EIR			

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

## LADWP Addendum - Proposed Regulator Station

### Los Angeles-South Coast County, Winter

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.88	38,400.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	11			<b>Operational Year</b>	2021
<b>Utility Company</b>	Los Angeles Department of Water & Power				
<b>CO2 Intensity (lb/MW hr)</b>	1227.89	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and square footage based on Lower Reach RSC EIR. Assumes 160 ft length and 40 ft width, with 6 equivalent pipeline areas.

Construction Phase - Based on approximately 240 workdays per year.

Off-road Equipment - Project specific equipment based on 4 concurrent open trenching construction areas.

Off-road Equipment - Project specific equipment based on Lower Reach River Supply DEIR. Assuming 3 active jacking/MTBM areas.

Grading - Fugitive dust emissions remain consistent with Lower Reach River Supply DEIR estimates.

Trips and VMT - Assumes 83 worker vehicles with 30 mi trip length and 366 haul trips per day for sand, backfill, steel pipe, waste, including water/welding (20 mi trip length).

Area Coating - Construction only emissions.

Construction Off-road Equipment Mitigation - Includes watering twice per day consistent with MM AQ-1 of Lower Reach River Supply DEIR.

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	19200	0
tblAreaCoating	Area_Nonresidential_Interior	57600	0
tblConstructionPhase	NumDays	2.00	240.00
tblConstructionPhase	NumDays	2.00	240.00
tblConstructionPhase	PhaseEndDate	1/17/2020	12/1/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	1/1/2020
tblLandUse	LandUseSquareFeet	0.00	38,400.00
tblLandUse	LotAcreage	0.00	0.88
tblOffRoadEquipment	HorsePower	97.00	89.00
tblOffRoadEquipment	HorsePower	100.00	80.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	8.00	90.00
tblOffRoadEquipment	HorsePower	231.00	187.00
tblOffRoadEquipment	HorsePower	46.00	50.00
tblOffRoadEquipment	HorsePower	84.00	600.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	231.00	187.00
tblOffRoadEquipment	HorsePower	46.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblTripsAndVMT	VendorTripLength	6.90	20.00
tblTripsAndVMT	VendorTripLength	6.90	20.00
tblTripsAndVMT	VendorTripNumber	0.00	504.00
tblTripsAndVMT	VendorTripNumber	0.00	228.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripLength	14.70	30.00
tblTripsAndVMT	WorkerTripLength	14.70	30.00
tblTripsAndVMT	WorkerTripNumber	70.00	166.00
tblTripsAndVMT	WorkerTripNumber	30.00	0.00

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	27.4227	397.3622	186.8814	0.9674	16.5837	8.0947	24.6783	4.5119	7.7281	12.2400	0.0000	103,373.5797	103,373.5797	9.6195	0.0000	103,614.0681
Maximum	27.4227	397.3622	186.8814	0.9674	16.5837	8.0947	24.6783	4.5119	7.7281	12.2400	0.0000	103,373.5797	103,373.5797	9.6195	0.0000	103,614.0681

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	27.4227	397.3622	186.8814	0.9674	16.5837	8.0947	24.6783	4.5119	7.7281	12.2400	0.0000	103,373.5796	103,373.5796	9.6195	0.0000	103,614.0681
Maximum	27.4227	397.3622	186.8814	0.9674	16.5837	8.0947	24.6783	4.5119	7.7281	12.2400	0.0000	103,373.5796	103,373.5796	9.6195	0.0000	103,614.0681



## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

[illegible]

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7603	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.7603</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.3000e-004</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7603	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.7603</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.3000e-004</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Open Trench Construction Area	Grading	1/1/2020	12/1/2020	5	240	
2	Pipe Jacking/MTBM Area	Grading	1/1/2020	12/1/2020	5	240	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipe Jacking/MTBM Area	Concrete/Industrial Saws	0	0.00	81	0.73
Pipe Jacking/MTBM Area	Rubber Tired Dozers	0	0.00	247	0.40
Pipe Jacking/MTBM Area	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Open Trench Construction Area	Concrete/Industrial Saws	0	0.00	81	0.73
Open Trench Construction Area	Rough Terrain Forklifts	4	10.00	80	0.40
Open Trench Construction Area	Tractors/Loaders/Backhoes	4	10.00	200	0.37
Open Trench Construction Area	Excavators	4	10.00	99	0.38
Open Trench Construction Area	Plate Compactors	4	10.00	90	0.43
Open Trench Construction Area	Cranes	4	10.00	187	0.29
Open Trench Construction Area	Welders	4	10.00	50	0.45
Open Trench Construction Area	Rubber Tired Dozers	0	0.00	247	0.40
Pipe Jacking/MTBM Area	Generator Sets	3	14.00	600	0.74
Pipe Jacking/MTBM Area	Excavators	3	14.00	99	0.38
Open Trench Construction Area	Tractors/Loaders/Backhoes	4	10.00	89	0.37
Pipe Jacking/MTBM Area	Cranes	3	8.00	187	0.29
Pipe Jacking/MTBM Area	Welders	3	12.00	50	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Pipe Jacking/MTBM Area	12	0.00	228.00	0.00	30.00	20.00	20.00	LD_Mix	HHDT	HHDT
Open Trench Construction Area	28	166.00	504.00	0.00	30.00	20.00	20.00	LD_Mix	HHDT	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**3.2 Open Trench Construction Area - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	7.6517	75.0570	57.2433	0.1130		3.4712	3.4712		3.2313	3.2313		10,727.01 13	10,727.01 13	3.2713		10,808.79 42
<b>Total</b>	<b>7.6517</b>	<b>75.0570</b>	<b>57.2433</b>	<b>0.1130</b>	<b>0.0000</b>	<b>3.4712</b>	<b>3.4712</b>	<b>0.0000</b>	<b>3.2313</b>	<b>3.2313</b>		<b>10,727.01 13</b>	<b>10,727.01 13</b>	<b>3.2713</b>		<b>10,808.79 42</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.5094	146.7963	34.1285	0.3912	8.8122	0.4696	9.2818	2.4155	0.4493	2.8649		42,391.14 10	42,391.14 10	3.0427		42,467.20 89
Worker	1.5527	1.1733	12.7637	0.0373	3.7850	0.0305	3.8155	1.0036	0.0281	1.0317		3,712.371 6	3,712.371 6	0.1139		3,715.219 6
<b>Total</b>	<b>6.0621</b>	<b>147.9696</b>	<b>46.8922</b>	<b>0.4285</b>	<b>12.5972</b>	<b>0.5002</b>	<b>13.0974</b>	<b>3.4191</b>	<b>0.4774</b>	<b>3.8966</b>		<b>46,103.51 25</b>	<b>46,103.51 25</b>	<b>3.1566</b>		<b>46,182.42 86</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**3.2 Open Trench Construction Area - 2020****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	7.6517	75.0570	57.2433	0.1130		3.4712	3.4712		3.2313	3.2313	0.0000	10,727.0113	10,727.0113	3.2713		10,808.7941
<b>Total</b>	<b>7.6517</b>	<b>75.0570</b>	<b>57.2433</b>	<b>0.1130</b>	<b>0.0000</b>	<b>3.4712</b>	<b>3.4712</b>	<b>0.0000</b>	<b>3.2313</b>	<b>3.2313</b>	<b>0.0000</b>	<b>10,727.0113</b>	<b>10,727.0113</b>	<b>3.2713</b>		<b>10,808.7941</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.5094	146.7963	34.1285	0.3912	8.8122	0.4696	9.2818	2.4155	0.4493	2.8649		42,391.1410	42,391.1410	3.0427		42,467.2089
Worker	1.5527	1.1733	12.7637	0.0373	3.7850	0.0305	3.8155	1.0036	0.0281	1.0317		3,712.3716	3,712.3716	0.1139		3,715.2196
<b>Total</b>	<b>6.0621</b>	<b>147.9696</b>	<b>46.8922</b>	<b>0.4285</b>	<b>12.5972</b>	<b>0.5002</b>	<b>13.0974</b>	<b>3.4191</b>	<b>0.4774</b>	<b>3.8966</b>		<b>46,103.5125</b>	<b>46,103.5125</b>	<b>3.1566</b>		<b>46,182.4286</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**3.3 Pipe Jacking/MTBM Area - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	11.6689	107.9277	67.3068	0.2489		3.9109	3.9109		3.8162	3.8162		27,366.1111	27,366.1111	1.8151		27,411.4890
<b>Total</b>	<b>11.6689</b>	<b>107.9277</b>	<b>67.3068</b>	<b>0.2489</b>	<b>0.0000</b>	<b>3.9109</b>	<b>3.9109</b>	<b>0.0000</b>	<b>3.8162</b>	<b>3.8162</b>		<b>27,366.1111</b>	<b>27,366.1111</b>	<b>1.8151</b>		<b>27,411.4890</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.0400	66.4079	15.4391	0.1770	3.9865	0.2125	4.1989	1.0928	0.2033	1.2960		19,176.9447	19,176.9447	1.3765		19,211.3564
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>2.0400</b>	<b>66.4079</b>	<b>15.4391</b>	<b>0.1770</b>	<b>3.9865</b>	<b>0.2125</b>	<b>4.1989</b>	<b>1.0928</b>	<b>0.2033</b>	<b>1.2960</b>		<b>19,176.9447</b>	<b>19,176.9447</b>	<b>1.3765</b>		<b>19,211.3564</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**3.3 Pipe Jacking/MTBM Area - 2020****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	11.6689	107.9277	67.3068	0.2489		3.9109	3.9109		3.8162	3.8162	0.0000	27,366.1111	27,366.1111	1.8151		27,411.4889
<b>Total</b>	<b>11.6689</b>	<b>107.9277</b>	<b>67.3068</b>	<b>0.2489</b>	<b>0.0000</b>	<b>3.9109</b>	<b>3.9109</b>	<b>0.0000</b>	<b>3.8162</b>	<b>3.8162</b>	<b>0.0000</b>	<b>27,366.1111</b>	<b>27,366.1111</b>	<b>1.8151</b>		<b>27,411.4889</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.0400	66.4079	15.4391	0.1770	3.9865	0.2125	4.1989	1.0928	0.2033	1.2960		19,176.9447	19,176.9447	1.3765		19,211.3564
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>2.0400</b>	<b>66.4079</b>	<b>15.4391</b>	<b>0.1770</b>	<b>3.9865</b>	<b>0.2125</b>	<b>4.1989</b>	<b>1.0928</b>	<b>0.2033</b>	<b>1.2960</b>		<b>19,176.9447</b>	<b>19,176.9447</b>	<b>1.3765</b>		<b>19,211.3564</b>

**4.0 Operational Detail - Mobile**



## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**5.0 Energy Detail**

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Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7603	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.7603	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>0.7603</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>0.7603</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

## LADWP Addendum - Proposed Regulator Station

### Los Angeles-South Coast County, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.88	38,400.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	11			<b>Operational Year</b>	2021
<b>Utility Company</b>	Los Angeles Department of Water & Power				
<b>CO2 Intensity (lb/MWhr)</b>	1227.89	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and square footage based on Lower Reach RSC EIR. Assumes 160 ft length and 40 ft width, with 6 equivalent pipeline areas.

Construction Phase - Based on approximately 240 workdays per year.

Off-road Equipment - Project specific equipment based on 4 concurrent open trenching construction areas.

Off-road Equipment - Project specific equipment based on Lower Reach River Supply DEIR. Assuming 3 active jacking/MTBM areas.

Grading - Fugitive dust emissions remain consistent with Lower Reach River Supply DEIR estimates.

Trips and VMT - Assumes 83 worker vehicles with 30 mi trip length and 366 haul trips per day for sand, backfill, steel pipe, waste, including water/welding (20 mi trip length).

Area Coating - Construction only emissions.

Construction Off-road Equipment Mitigation - Includes watering twice per day consistent with MM AQ-1 of Lower Reach River Supply DEIR.

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	19200	0
tblAreaCoating	Area_Nonresidential_Interior	57600	0
tblConstructionPhase	NumDays	2.00	240.00
tblConstructionPhase	NumDays	2.00	240.00
tblConstructionPhase	PhaseEndDate	1/17/2020	12/1/2020
tblConstructionPhase	PhaseStartDate	1/16/2020	1/1/2020
tblLandUse	LandUseSquareFeet	0.00	38,400.00
tblLandUse	LotAcreage	0.00	0.88
tblOffRoadEquipment	HorsePower	97.00	89.00
tblOffRoadEquipment	HorsePower	100.00	80.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	8.00	90.00
tblOffRoadEquipment	HorsePower	231.00	187.00
tblOffRoadEquipment	HorsePower	46.00	50.00
tblOffRoadEquipment	HorsePower	84.00	600.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	231.00	187.00
tblOffRoadEquipment	HorsePower	46.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets



## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblTripsAndVMT	VendorTripLength	6.90	20.00
tblTripsAndVMT	VendorTripLength	6.90	20.00
tblTripsAndVMT	VendorTripNumber	0.00	504.00
tblTripsAndVMT	VendorTripNumber	0.00	228.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripLength	14.70	30.00
tblTripsAndVMT	WorkerTripLength	14.70	30.00
tblTripsAndVMT	WorkerTripNumber	70.00	166.00
tblTripsAndVMT	WorkerTripNumber	30.00	0.00

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**2.0 Emissions Summary****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	3.2609	48.1888	22.2733	0.1169	1.9549	0.9706	2.9255	0.5328	0.9267	1.4595	0.0000	11,328.3598	11,328.3598	1.0379	0.0000	11,354.3078
Maximum	3.2609	48.1888	22.2733	0.1169	1.9549	0.9706	2.9255	0.5328	0.9267	1.4595	0.0000	11,328.3598	11,328.3598	1.0379	0.0000	11,354.3078

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	3.2609	48.1887	22.2732	0.1169	1.9549	0.9706	2.9255	0.5328	0.9267	1.4595	0.0000	11,328.3549	11,328.3549	1.0379	0.0000	11,354.3028
Maximum	3.2609	48.1887	22.2732	0.1169	1.9549	0.9706	2.9255	0.5328	0.9267	1.4595	0.0000	11,328.3549	11,328.3549	1.0379	0.0000	11,354.3028

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	13.8055	13.8055
2	4-1-2020	6-30-2020	13.7021	13.7021
3	7-1-2020	9-30-2020	13.8527	13.8527
		Highest	13.8527	13.8527

## 2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1388	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1388	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1388	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1388</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Open Trench Construction Area	Grading	1/1/2020	12/1/2020	5	240	
2	Pipe Jacking/MTBM Area	Grading	1/1/2020	12/1/2020	5	240	

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**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipe Jacking/MTBM Area	Concrete/Industrial Saws	0	0.00	81	0.73
Pipe Jacking/MTBM Area	Rubber Tired Dozers	0	0.00	247	0.40
Pipe Jacking/MTBM Area	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Open Trench Construction Area	Concrete/Industrial Saws	0	0.00	81	0.73
Open Trench Construction Area	Rough Terrain Forklifts	4	10.00	80	0.40
Open Trench Construction Area	Tractors/Loaders/Backhoes	4	10.00	200	0.37
Open Trench Construction Area	Excavators	4	10.00	99	0.38
Open Trench Construction Area	Plate Compactors	4	10.00	90	0.43
Open Trench Construction Area	Cranes	4	10.00	187	0.29
Open Trench Construction Area	Welders	4	10.00	50	0.45
Open Trench Construction Area	Rubber Tired Dozers	0	0.00	247	0.40
Pipe Jacking/MTBM Area	Generator Sets	3	14.00	600	0.74
Pipe Jacking/MTBM Area	Excavators	3	14.00	99	0.38
Open Trench Construction Area	Tractors/Loaders/Backhoes	4	10.00	89	0.37
Pipe Jacking/MTBM Area	Cranes	3	8.00	187	0.29
Pipe Jacking/MTBM Area	Welders	3	12.00	50	0.45

**Trips and VMT**

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Pipe Jacking/MTBM Area	12	0.00	228.00	0.00	30.00	20.00	20.00	LD_Mix	HHDT	HHDT
Open Trench Construction Area	28	166.00	504.00	0.00	30.00	20.00	20.00	LD_Mix	HHDT	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

**3.2 Open Trench Construction Area - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.9182	9.0068	6.8692	0.0136		0.4165	0.4165		0.3878	0.3878	0.0000	1,167.7657	1,167.7657	0.3561	0.0000	1,176.6688
<b>Total</b>	<b>0.9182</b>	<b>9.0068</b>	<b>6.8692</b>	<b>0.0136</b>	<b>0.0000</b>	<b>0.4165</b>	<b>0.4165</b>	<b>0.0000</b>	<b>0.3878</b>	<b>0.3878</b>	<b>0.0000</b>	<b>1,167.7657</b>	<b>1,167.7657</b>	<b>0.3561</b>	<b>0.0000</b>	<b>1,176.6688</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**3.2 Open Trench Construction Area - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.5338	17.9607	3.9588	0.0474	1.0394	0.0559	1.0953	0.2854	0.0534	0.3389	0.0000	4,661.6909	4,661.6909	0.3247	0.0000	4,669.8082
Worker	0.1672	0.1448	1.5776	4.5500e-003	0.4453	3.6600e-003	0.4489	0.1182	3.3700e-003	0.1216	0.0000	410.9088	410.9088	0.0126	0.0000	411.2244
<b>Total</b>	<b>0.7009</b>	<b>18.1055</b>	<b>5.5364</b>	<b>0.0520</b>	<b>1.4847</b>	<b>0.0595</b>	<b>1.5442</b>	<b>0.4037</b>	<b>0.0568</b>	<b>0.4605</b>	<b>0.0000</b>	<b>5,072.5997</b>	<b>5,072.5997</b>	<b>0.3373</b>	<b>0.0000</b>	<b>5,081.0326</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.9182	9.0068	6.8692	0.0136		0.4165	0.4165		0.3878	0.3878	0.0000	1,167.7643	1,167.7643	0.3561	0.0000	1,176.6674
<b>Total</b>	<b>0.9182</b>	<b>9.0068</b>	<b>6.8692</b>	<b>0.0136</b>	<b>0.0000</b>	<b>0.4165</b>	<b>0.4165</b>	<b>0.0000</b>	<b>0.3878</b>	<b>0.3878</b>	<b>0.0000</b>	<b>1,167.7643</b>	<b>1,167.7643</b>	<b>0.3561</b>	<b>0.0000</b>	<b>1,176.6674</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**3.2 Open Trench Construction Area - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.5338	17.9607	3.9588	0.0474	1.0394	0.0559	1.0953	0.2854	0.0534	0.3389	0.0000	4,661.6909	4,661.6909	0.3247	0.0000	4,669.8082
Worker	0.1672	0.1448	1.5776	4.5500e-003	0.4453	3.6600e-003	0.4489	0.1182	3.3700e-003	0.1216	0.0000	410.9088	410.9088	0.0126	0.0000	411.2244
<b>Total</b>	<b>0.7009</b>	<b>18.1055</b>	<b>5.5364</b>	<b>0.0520</b>	<b>1.4847</b>	<b>0.0595</b>	<b>1.5442</b>	<b>0.4037</b>	<b>0.0568</b>	<b>0.4605</b>	<b>0.0000</b>	<b>5,072.5997</b>	<b>5,072.5997</b>	<b>0.3373</b>	<b>0.0000</b>	<b>5,081.0326</b>

**3.3 Pipe Jacking/MTBM Area - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4003	12.9513	8.0768	0.0299		0.4693	0.4693		0.4579	0.4579	0.0000	2,979.1342	2,979.1342	0.1976	0.0000	2,984.0741
<b>Total</b>	<b>1.4003</b>	<b>12.9513</b>	<b>8.0768</b>	<b>0.0299</b>	<b>0.0000</b>	<b>0.4693</b>	<b>0.4693</b>	<b>0.0000</b>	<b>0.4579</b>	<b>0.4579</b>	<b>0.0000</b>	<b>2,979.1342</b>	<b>2,979.1342</b>	<b>0.1976</b>	<b>0.0000</b>	<b>2,984.0741</b>



## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**3.3 Pipe Jacking/MTBM Area - 2020****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2415	8.1251	1.7909	0.0215	0.4702	0.0253	0.4955	0.1291	0.0242	0.1533	0.0000	2,108.860 2	2,108.860 2	0.1469	0.0000	2,112.5323
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.2415</b>	<b>8.1251</b>	<b>1.7909</b>	<b>0.0215</b>	<b>0.4702</b>	<b>0.0253</b>	<b>0.4955</b>	<b>0.1291</b>	<b>0.0242</b>	<b>0.1533</b>	<b>0.0000</b>	<b>2,108.860 2</b>	<b>2,108.860 2</b>	<b>0.1469</b>	<b>0.0000</b>	<b>2,112.532 3</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4003	12.9513	8.0768	0.0299		0.4693	0.4693		0.4579	0.4579	0.0000	2,979.130 7	2,979.130 7	0.1976	0.0000	2,984.070 6
<b>Total</b>	<b>1.4003</b>	<b>12.9513</b>	<b>8.0768</b>	<b>0.0299</b>	<b>0.0000</b>	<b>0.4693</b>	<b>0.4693</b>	<b>0.0000</b>	<b>0.4579</b>	<b>0.4579</b>	<b>0.0000</b>	<b>2,979.130 7</b>	<b>2,979.130 7</b>	<b>0.1976</b>	<b>0.0000</b>	<b>2,984.070 6</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**3.3 Pipe Jacking/MTBM Area - 2020****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2415	8.1251	1.7909	0.0215	0.4702	0.0253	0.4955	0.1291	0.0242	0.1533	0.0000	2,108.860 2	2,108.860 2	0.1469	0.0000	2,112.5323
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.2415</b>	<b>8.1251</b>	<b>1.7909</b>	<b>0.0215</b>	<b>0.4702</b>	<b>0.0253</b>	<b>0.4955</b>	<b>0.1291</b>	<b>0.0242</b>	<b>0.1533</b>	<b>0.0000</b>	<b>2,108.860 2</b>	<b>2,108.860 2</b>	<b>0.1469</b>	<b>0.0000</b>	<b>2,112.532 3</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547192	0.045177	0.202743	0.121510	0.016147	0.006143	0.019743	0.029945	0.002479	0.002270	0.005078	0.000682	0.000891

## 5.0 Energy Detail

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Historical Energy Use: N

LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

## 5.1 Mitigation Measures Energy

[illegible]

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

[illegible]

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1388	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.1388	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1388					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
<b>Total</b>	<b>0.1388</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1388					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
<b>Total</b>	<b>0.1388</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>

**7.0 Water Detail**

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>



## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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## LADWP Addendum - Proposed Regulator Station - Los Angeles-South Coast County, Annual

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## **APPENDIX B**

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# **Biological Resources Technical Report**



**BIOLOGICAL RESOURCES TECHNICAL REPORT**

**LOWER REACH RIVER SUPPLY CONDUIT PROJECT**

**EIR ADDENDUM**

**LOS ANGELES COUNTY, CALIFORNIA**

***Prepared for:***

Los Angeles Department of Water and Power  
111 North Hope Street  
Los Angeles, California 90012

***Prepared by:***

AECOM  
300 South Grand Avenue  
Los Angeles, California 90071

July 2020



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## **CHAPTER 1.0**

### **INTRODUCTION**

On February 21, 2006, Los Angeles Department of Water & Power (LADWP) approved a Final Environmental Impact Report (EIR) for the Lower Reach River Supply Conduit (RSC) Project (LADWP 2006) (hereafter 2006 EIR). The Lower Reach RSC Project replaces an existing potable water trunk line that was installed in the 1940s. The new water line will increase system reliability, transmission capacity, and resiliency as well as allow for higher operating pressure to meet California Department of Health Services drinking water regulations. The Lower Reach RSC covers a length of approximately 7 miles, beginning north of Griffith Park and ending at Silver Lake Reservoir in the City of Los Angeles. For construction purposes, the Lower Reach was divided into five separate units: 1A, 1B, 2, 3, and 4.

A component of the Project, the Headworks flow control station (also referred to as a pressure regulator station) was addressed in the RSC Project EIR. This biological resource report is being prepared in support of an EIR Addendum, which is required for LADWP's current effort to pursuing funding through the State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund (SRF) for construction of the flow control station at the Headworks Spreading Grounds (HWSG) site. Due to the timeframe between project approval and project construction, the biological resource study prepared in support of the 2006 EIR needs to be updated, per requirements of the SRF Environmental Package application. AECOM was retained by LADWP to prepare an updated biological resources report to evaluate potential impacts resulting from minor technical refinements to the flow control station. This report re-evaluates impacts of the project and assesses if conclusions and mitigation measures presented in the 2006 EIR, are still applicable and valid.

#### **1.1 PROJECT LOCATION**

The Headworks flow control station will be located within a segment of Unit 1A that will run parallel to Forest Lawn Drive and along the southern perimeter of the former Headworks Spreading Grounds (HWSG), a 43-acre site owned by the City of Los Angeles located along the northwest edge of Griffith Park. HWSG is the location of Headworks Reservoir East and Headworks Reservoir West, two new approximately 55-million-gallon buried concrete drinking water reservoirs constructed since certification of the RSC Project EIR. Headworks Reservoir East was completed in 2014, and Headworks Reservoir West was completed in 2020. The Headworks reservoir projects were addressed in a separate EIR. The HWSG site is a relatively flat parcel at approximately 500 feet above mean sea level, immediately south of the Los Angeles River, just below the north slopes of the easternmost-spur of the Santa Monica

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Mountains. In addition to the river channel, it is bounded on the north by State Highway 134, on the south by Forest Lawn Drive, and on the east by freeway on-ramps. A utility corridor including electrical transmission towers extends east and west along the northern portion of the HWSG site.

The 43-acre HWSG site occurs within the south-central portion of the Burbank, CA United States Geological Survey (USGS) 7.5-minute quadrangle map. Figure 1-1 depicts the regional location of the Project. Adjacent land uses include urban and developed areas to the north, cemeteries to the south, the Traveltown Museum to the east, and portions of Griffith Park with natural land cover to the southeast. Figure 2 depicts the Project location.

## **1.2 PROJECT DESCRIPTION**

To facilitate the coordination of the construction of the various facilities within the HWSG property, the installation of RSC Unit 1A, including the flow control station, has been included with the Headworks reservoirs construction effort. In the certified EIR for the Lower Reach RSC, the western segment of Unit 1A was located along the south perimeter of the HWSG. This general alignment of the pipeline has since been further refined to place it within a 20-foot wide paved internal access road, approximately 100 feet north of the HWSG property southern boundary fence (Figure 1-2). The access road and the pipeline will be located in areas already fully disturbed by construction activities at the property.

### *Area of Potential Effect*

Project activities related to the flow control station that will occur within the Project area, or Area of Potential Effect (APE) are described below.

In the Certified EIR, the proposed flow control station was described as follows (LADWP Lower Reach River Supply Conduit Project Draft EIR, page 2-8):

[Flow control] stations are used in water supply systems to control pressure in the pipelines. A typical station is located in an underground vault and consists of several parallel pipes, or legs, that branch off the main pipeline. These pipe legs are smaller than the main pipeline and have regulator valves installed, which control pressure by how much the valve is opened or closed. Ancillary equipment is also required for the vault and may include lines valves, power, ventilation, and pumps. Additionally, a relief station consisting of a vault and valve system in an underground vault is needed in the event that the regulator valve fails. The relief valve would open to control the downstream pipe pressure.

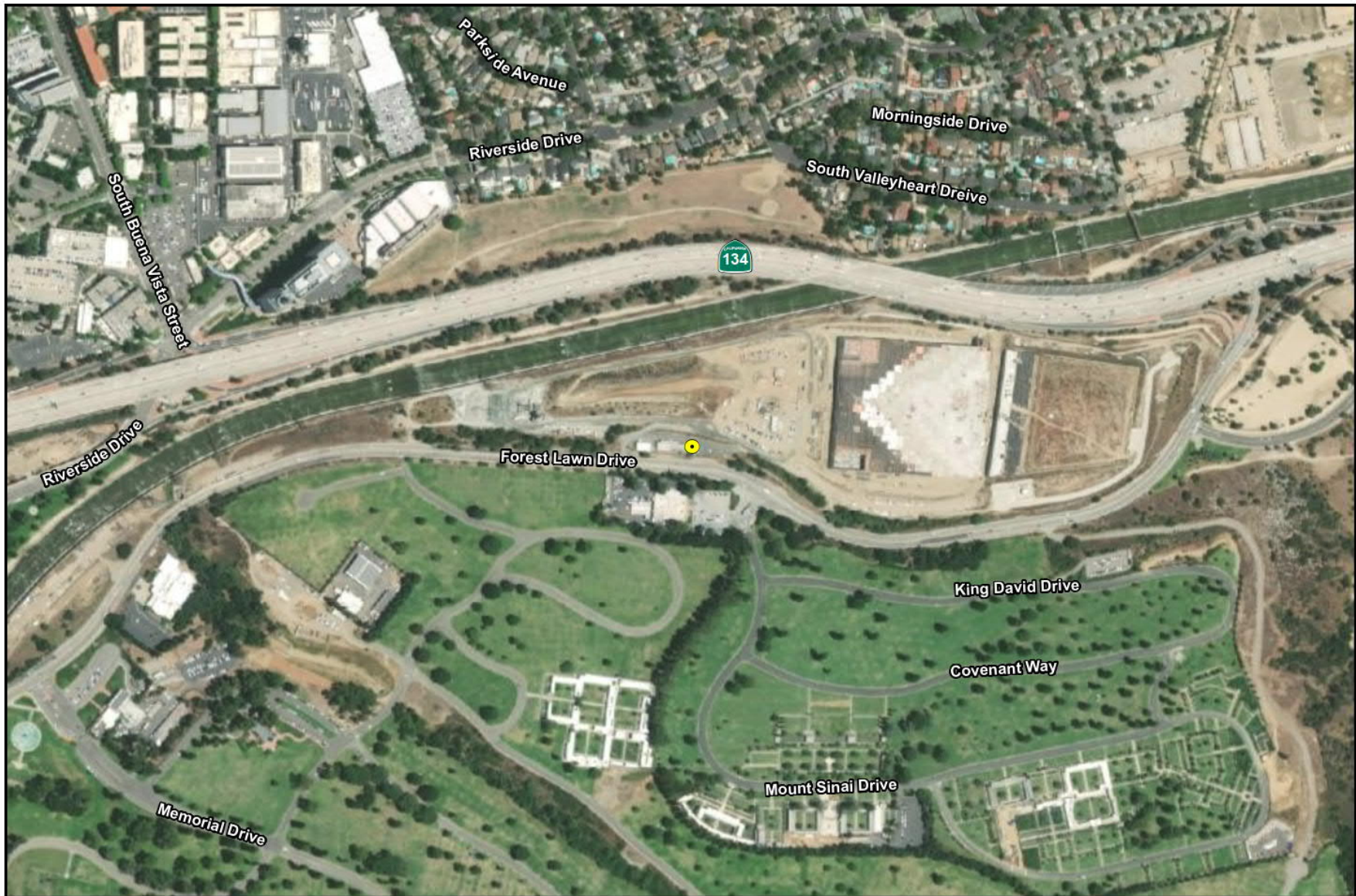
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As part of the Lower Reach RSC pipeline construction, a [flow control] station would be built underground inside a vault, with approximate dimensions of 45 feet by 25 feet, within the Headworks Spreading Grounds site. This station would consist of approximately five smaller pipe legs (two 24-inch and three 16-inch legs). Each pipeline would have a control valve, which would be operated as necessary to maintain the pressure requirements downstream within the Lower Reach RSC pipeline (LADWP Lower Reach River Supply Conduit Project Draft EIR, page 2-8).

The purpose and physical description of the flow control station remain essentially consistent with the Certified EIR assumptions. However, the five smaller pipe legs will now consist of two 30-inch legs and three 20-inch legs. This change is minor and not considered consequential relative to the creation of potential environmental impacts related to construction and operation and maintenance of the flow control station. In the Certified EIR, the flow control station was conceptually located along the Unit 1A trunk line segment in the western end of the Headworks property. The currently proposed refined location of the station places it within an existing paved construction administration area in the western part of the Headworks property, generally consistent with the location assumed in the Certified EIR.







Source: Esri, 2020



0 300 600 Feet



Proposed Flow Control Station

**Figure 2**  
**Project Location Map**



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## **CHAPTER 2.0**

### **EXISTING BIOLOGICAL CONDITIONS**

#### **2.1 LITERATURE/DATABASE REVIEW**

Prior to conducting a field survey, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and California Native Plant Society (CNPS) databases were queried to determine special-status species and other sensitive biological resources known from the Project region. These sources are cited in relevant sections of the following report and species lists generated from a search of the three databases are included in Appendix A.

AECOM biologist Art Popp conducted a reconnaissance field survey of the Project site on June 11, 2020, to document existing conditions at the proposed location for the flow control station plus a 500-foot survey buffer around the site, combined the Biological Survey Area (BSA) (Figure 3), or area of potential effect (APE) assessed for this report. A buffer was included in the analysis in order to capture potential indirect effects to biological resources from implementation of the Project. Indirect effects could include elevated noise and dust levels, soil compaction, and increased human activity. It is anticipated that indirect impacts beyond the buffer would be defuse and would not significantly impact biological resources. Seasonal, species-specific botanical and wildlife surveys were not conducted as part of this evaluation. Observations of existing conditions made during the field surveys indicate that habitats preferred by regional special-status plant and wildlife species generally do not occur in the BSA, limiting potential for their occurrence in proximity of the Project.

#### **2.2 VEGETATIVE COMMUNITIES/LAND COVER TYPES**

Vegetation communities documented in the 2006 EIR along the RSC Project alignment includes ornamental and cultivated species or ruderal species, which are those that thrive in disturbed or urbanized environments. From where the proposed water line alignment crosses the Los Angeles River and passes through Griffith Park, which includes the location for the proposed flow control station, patches of native oak woodland, willow riparian, coastal scrub and chaparral vegetation or species associated with those communities are present. Ornamental vegetation was documented in the immediate vicinity of the proposed flow control station in the 2006 EIR.

During the reconnaissance field survey, Urban Developed and Disturbed cover types were documented. No natural vegetation communities are present in the BSA, and the nearest occurrence of natural vegetation is in Griffith Park, roughly 0.40 mile east-southeast of the Project.

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### *Urban Developed*

Urban developed areas inside the BSA include a portion of the constructed Headworks Reservoir West and paved roadways inside the HWSG, Forest Lawn Drive, and Mount. Sinai Memorial Parks and Mortuaries (Mt. Sinai Park). Areas of ornamental landscaping also exist, primarily along the southern perimeter of the HWSG site, where mature pine (*Pinus* spp.) trees line Forest Lawn Drive. Mature ornamental trees and large areas of lawn occur in Mt. Sinai Park, located across Forest Lawn Drive from the proposed flow control station site. A small portion of the concrete box channel of the Los Angeles River is captured within the northern portion of the BSA, with the 134 Freeway just outside the BSA north of the river.

### *Disturbed*

Disturbed areas in the BSA include bare ground with no vegetation, where grading for construction of the reservoirs has occurred, equipment and materials staging and storage areas, and areas interspersed throughout the BSA where activities associated with previous construction and operation of the former spreading grounds have removed natural vegetation communities. Disturbed habitat also occurs within an electrical transmission corridor in the northern portion of the BSA, where large tower structures are surrounded by areas of bare ground and weedy annual growth. Mustards (*Brassica* spp.), wild oat (*Avena barbata*), and brome grasses (*Bromus* spp.) were observed in disturbed areas.

Vegetation in disturbed areas in the BSA include primarily two narrow strips of vegetation adjacent to roadways in the HWSG that have not been completely removed. This includes an approximate 20-foot wide strip of fountain grass (*Pennisetum setaceum*) with a few mulefat (*Baccharis salicifolia*) that occurs along a paved access road adjacent to construction trailers and near the location for the proposed flow control station. Another strip of vegetation occurs east of the trailers, in the eastern portion of the BSA. This approximate 50-foot wide strip of vegetation contains primarily toyon (*Heteromeles arbutifolia*), poison oak (*Toxicodendron diversilobum*), coastal goldenbush (*Isocoma menziesii*), mustard, and a large lemonade berry shrub (*Rhus integrifolia*).

No federally or state-listed plant species were identified as present in the 2006 EIR, and none were detected during the reconnaissance field survey.

## **2.3 WILDLIFE SPECIES**

Little wildlife was detected during the reconnaissance field survey. Wildlife identified during the reconnaissance field survey included mourning dove (*Zenaida macroura*), northern mockingbird

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(*Mimus polyglottos*), and house finch (*Haemorhous mexicanus*), bird species typical in urbanized areas. The 2006 EIR indicates that other common birds expected to occur in the project area include turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), western scrub jay (*Aphelocoma coerulescens*), and California towhee (*Pipilo crissalis*). Mammals likely to inhabit the proposed project alignment include raccoon (*Procyon lotor*), California ground squirrel (*Spermophilus beecheyii*), brush rabbit (*Sylvilagus bachmani*), and striped skunk (*Mephitis mephitis*). Larger mammals that may inhabit Griffith Park include bobcat (*Felis rufus*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). Additionally, a number of reptile and amphibian species are known to occur in the project area. The most common include king snake (*Lampropeltis getulus*), western fence lizard (*Sceloporus occidentalis*), and western rattlesnake (*Crotalus viridis*). Due to the proximity of urban development, the area is frequented by domestic and feral cats (*Felis catus*) and dogs (*Canis domesticus*) (LADWP 2006). It is likely that birds and other wildlife species are currently less common in and around the Project area due to the lack of vegetation and on-going construction activities.

The field survey was conducted during the nesting bird season, generally considered to extend from February 1 through August 31. No active nests or bird breeding or nesting behaviors were detected during the survey.

No federally or state-listed wildlife species were identified as present in the 2006 EIR and none were detected during the reconnaissance field survey.

## **2.4 WILDLIFE MOVEMENT CORRIDORS**

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two comparatively undisturbed habitat fragments, or between a habitat fragment and some vital resource that encourages population growth and diversity. Habitat fragments are isolated patches of habitat separated by otherwise foreign or inhospitable areas, such as urban/suburban tracts, agricultural lands, or highways. Habitat fragments can isolate species populations by limiting migration, foraging, and breeding opportunities. Isolation of populations can have many harmful impacts and may contribute significantly to local species extinction.

Two types of wildlife migration corridors seen in urban settings are regional corridors, defined as those linking two or more large areas of natural open space, and local corridors, defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. Wildlife migration corridors are essential in geographically diverse settings, and especially in urban settings, for the sustainability of healthy and diverse animal communities. At a minimum, corridors promote colonization of

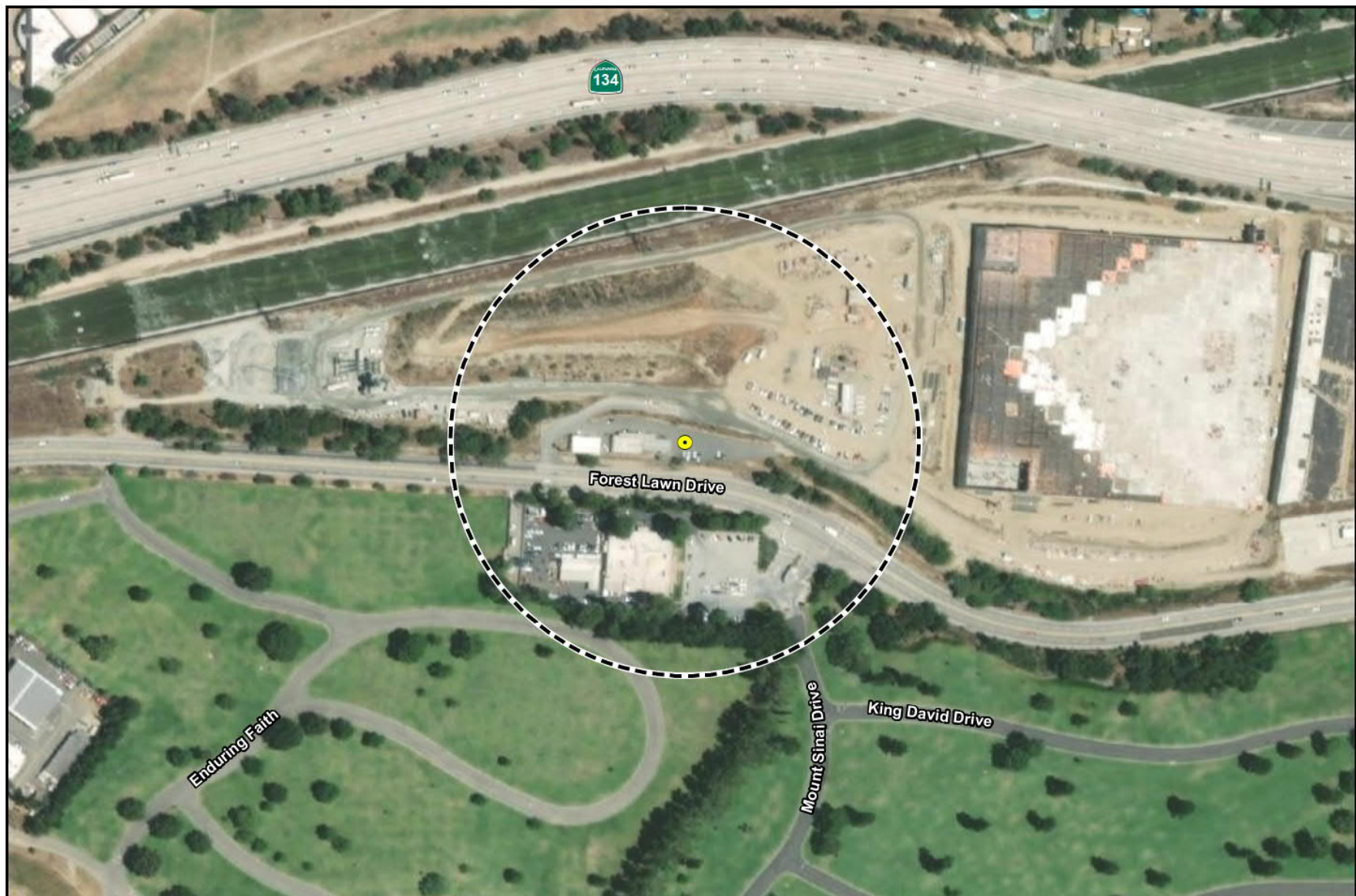
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habitat and genetic variability by connecting fragments of like habitat and help sustain individual species distributed in and among habitat fragments. They are also important features for dispersal, seasonal migration, foraging, and breeding.

Mature trees along Forest Lawn Drive within the BSA and in Mt. Sinai Park may provide a corridor for localized bird movement and movement to and from relatively undisturbed habitats in Griffith Park, approximately 0.40 mile east-southeast of the BSA. The Project area itself, however, does not provide connectivity between natural habitat areas and is not expected to be a significant wildlife movement corridor. The BSA consists of and is surrounded by urban developed and disturbed cover types, and as a result, potentially suitable foraging, resting, or escape cover habitat to support significant wildlife movement is of low quality.

As previously indicated, the Los Angeles River is located in the far northern portion of the BSA. This section of the river consists of a concrete box channel, about 200 feet wide, and up to 20 feet deep. There is no riparian vegetation in or along this reach of the river; however, storm flows and urban sources promote the production of substantial algae within sheet flow in the channel that some bird species forage on.

Griffith Park and the greater Santa Monica Mountains to the west-southwest of the BSA provide large areas of natural open space habitat for wildlife. Although impacted by development, the Santa Monica Mountains allow wildlife movement through relatively vast and undisturbed habitats. With its large size and variations in topography, wildlife utilizes natural corridors that allow movement between large open space areas within the range, as well as between the Simi Hills to the north.



Source: Esri, 2020



0 150 300 Feet



Proposed Regulator Station



500-foot Biological Survey Area

**Figure 3**  
**Biological Survey Area**

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## CHAPTER 3.0

### SPECIAL-STATUS BIOLOGICAL RESOURCES

The California Natural Diversity Data Base (CNDDB) (CDFW 2020) and the CNPS on-line Inventory of Rare and Endangered Plants of California (CNPS 2020) were reviewed in June 2020 for the most recent distribution information for regional special-status plant and wildlife species and sensitive natural communities within the Burbank quadrangle and the surrounding eight quadrangles, including: Beverly Hills, Condor Peak, Hollywood, Los Angeles, Pasadena, San Fernando, Sunland, and Van Nuys. Additionally, the USFWS Information for Planning and Conservation (IPaC) (USFWS 2020) on-line environmental review process was required for federally listed special-status species and protected areas known from the Project vicinity.

#### 3.1 SPECIAL-STATUS PLANTS

Special-status plant species include those listed as Endangered, Threatened, Rare or those species proposed for listing by the USFWS under the federal Endangered Species Act (FESA) and CDFW under the California Endangered Species Act (CESA). The CNPS inventory is sanctioned by the CDFW and serves essentially as the list of candidate plant species for state listing. CNPS's California Rare Plant Ranks (CRPR) 1B and 2 species are considered eligible for state listing as endangered or threatened.

Eleven plant species identified during queries of the CNDDB, CNPS, and IPaC are federally and/or state-listed as threatened, endangered, or rare, including: marsh sandwort (*Arenaria paludicola*), Braunton's milk-vetch (*Astragalus brauntonii*), Ventura Marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), coastal dunes milk-vetch (*Astragalus tener* var. *titi*), Nevin's barberry (*Berberis nevinii*), salt marsh bird's-beak (*Chloropyron maritimum* spp. *maritimum*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), beach spectaclepod (*Dithyrea maritima*), slender-horned spineflower (*Dodecahema leptoceras*), Gambel's water cress (*Nasturtium gambelii*), and California Orcutt grass (*Orcuttia californica*). Of these species, two records of Nevin's barberry from 2010 occur approximately 1.5 miles south-southeast of the BSA; however, habitats preferred by this species, including sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub habitats, are not present in the BSA, and this species is not expected to occur in the BSA.

A total of 66 special-status plant species were identified during queries of the CNDDB and CNPS on-line inventory to have historically been recorded from the Burbank and surrounding eight quadrangles, and from a search of IPaC for the Project area. The results of these searches are included in Appendix A. The historical occurrence of one special-status plant species,



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Parish's brittlescale (*Atriplex parishii*), a CNPS-listed species with a CRPR of 1B.1 (Plants rare, threatened, or endangered in California and elsewhere, seriously threatened in California) coincides with the BSA. The record indicates an undated collection from along the northern foot of the Santa Monica Mountains, north of Griffith Park (CDFW 2020). Mesa horkelia (*Horkelia cuneata* var. *puberula*; CRPR 1B.1) was documented in 1918 approximately one mile east of the BSA in Griffith Park and slender mariposa-lily (*Calochortus clavatus* var. *gracilis*; CRPR 1B.2, Plants rare, threatened, or endangered in California and elsewhere, moderately threatened in California) in 2010, approximately 1.25 miles south of the BSA in Griffith Park (CDFW 2020).

No special-status plant species were documented as present in the 2006 EIR, none were detected during the reconnaissance survey, and habitat suitable to support these species no longer occur in the BSA. Additionally, the Project area is likely more disturbed than at the time of the 2006 EIR, and as a result, no special-status plant species are currently anticipated to occur in the BSA. Most occurrences identified during the database searches are known from intact natural habitats within the nearby Santa Monica Mountains, and from the Verdugo Mountains and Angeles National Forest, a few miles to the north and east of the BSA. Special-status plant species identified during queries of the CNNDDB, CNPS, and IPaC, their status, habitat requirements, and potential to occur within the BSA are provided in Table A, Appendix B.

No USFWS-designated Critical Habitat coincides with the BSA or occurs within five miles.

### **3.2 SPECIAL-STATUS WILDLIFE**

Special-status wildlife species include those listed as Endangered, Threatened, Rare or those species proposed for listing by the USFWS under FESA and CDFW under CESA. Additional species receive federal protection under the Bald Eagle Protection Act (e.g., bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under the California Environmental Quality Act (CEQA) Section 15380(d) and California Fish and Game Code.

All birds, except European starlings, English house sparrows, rock doves (pigeons), and non-migratory game birds such as quail, pheasant, and grouse are protected under the MBTA. However, non-migratory game birds are protected under California Fish and Game Code (CFGF) Section 3503. Many other species are considered by CDFW to be California species of special concern (SSC), listed in Remsen (1978), Williams (1986) and CDFW (2016e), and others are on a CDFW Watch List (WL) (CDFW 2019). The CNDDDB tracks species within California for which there is conservation concern, including many that are not formally listed, and assigns them a CNDDDB Rank (CDFW 2019). Although SSC and WL species, and species that are tracked by the CNDDDB, but not formally listed, are afforded no official legal status, they may receive special consideration during the CEQA review process.

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CDFW further classifies some species under the following categories: "Fully Protected", "Protected birds" (CDFW Code §3511), "Protected mammals" (CDFW Code §4700), "Protected amphibian" (CDFW Code §5050 and Chapter 5, §41), "Protected reptile" (CDFW Code §5050 and Chapter 5, §42), and "Protected fish" (CDFW Code §5515). The designation "Protected" indicates that a species may not be taken or possessed except under special permit from CDFW; "Fully Protected" indicates that a species can be taken for scientific purposes by permit only (CDFW 2019). CDFW Code §§3503, 3505, and 3800 prohibit the take, destruction or possession of any bird, nest or egg of any bird except English house sparrows and European starlings unless express authorization is obtained from CDFW. Additionally, USFWS has designated a number of migratory nongame birds as Birds of Conservation Concern (BCC) (USFWS 2008). This is the most recent effort by USFWS to identify migratory birds that, without conservation actions, are likely to become candidates for listing under FESA. Thirteen BCC are included in the IPaC list generated for the Project area.

Eleven wildlife species from a search of the CNDDDB and IPaC are federally and/or state-listed as threatened or endangered, or are candidates for listing, including: arroyo toad (*Anaxyrus californicus*), Crotch bumblebee (*Bombus crotchii*), Swainson's hawk (*Buteo swainsoni*), Santa Ana sucker (*Catostomus santaanae*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), California condor (*Gymnogyps californianus*), coastal California gnatcatcher (*Polioptila californica californica*), southern mountain yellow-legged frog (*Rana muscosa*), bank swallow (*Riparia riparia*), and least Bell's vireo (*Vireo bellii pusillus*). Historical records of least Bell's vireo coincide with the BSA (CDFW 2020); however, the records are from the 1920's along the Los Angeles River adjacent to the BSA. Riparian habitat suitable for this species is absent from along the river and in the vicinity of the BSA.

A total of 46 special-status wildlife species were identified from the CNDDDB search to have historically been recorded from the Burbank and surrounding eight quadrangles, and from a search of IPaC for the Project area. Search results are included in Appendix A, and the status, habitat requirements, and potential to occur within the BSA for special-status wildlife species are provided in Table B, Appendix B. The BCC included in the IPaC list are not discussed individually, but are addressed in sections dealing with nesting birds protected under the MBTA. Two CNDDDB records of California legless lizard (*Anniella* spp.; SSC) and two of San Diego woodrat (*Neotoma lepida intermedia*; SSC) have been documented within one mile south-southwest of the BSA since the 2006 EIR. Habitats preferred by these species are absent from the BSA.

Similar to regional occurrences of special-status plant species, most wildlife species occurrences in the region are known from intact natural habitats within the Santa Monica Mountains,

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Verdugo Mountains, and Angeles National Forest. Due to the presence of urban developed and disturbed habitats in the BSA and the absence of any observations of special-status wildlife species documented in the 2006 EIR, only American peregrine falcon (*Falco peregrinus anatum*), is considered to have at least some potential to occur within the vicinity of the BSA, and likely only as a transient forager or migrant. Bird species protected by the MBTA and CFGC that have potential to nest in the vicinity of the BSA are discussed further below. No special-status insect, fish, amphibian, reptile, or mammal species are expected to occur within the BSA, or have potentially suitable habitat available in the BSA, and as a result are not further discussed in this report.

The only special-status wildlife species discussed in the 2006 EIR was burrowing owl (SSC); however, habitats preferred by this species, including expansive, nearly flat open areas, such as prairies, grasslands, agricultural fields, and vacant lots with small mammal burrows required for roosting/nesting, do not occur in the BSA. The BSA is currently more disturbed than in 2006, and as a result, special-status wildlife are generally not expected in the BSA, with the exception of transient foraging or migrating special-status bird species. In addition to American peregrine falcon, Cooper's hawk (*Accipiter cooperii*), a WL species, may occur across the BSA as a transient. These special-status birds are not expected to nest in the BSA but may forage across the BSA. More suitable nesting and foraging habitats are present outside the BSA in nearby Griffith Park.

### Raptors

Common raptors known from urban areas in Los Angeles County, such as red-tailed hawk (*Buteo jamaicensis*) and great horned owl (*Bubo virginianus*), nest in mature, large coniferous or deciduous trees and use twigs or branches as nesting material. These raptors could nest in and around the BSA, in particular in mature ornamental trees and electrical transmission towers. Additionally, ornamental plants in urban developed areas in and surrounding the BSA provide suitable habitat for small birds and mammals, providing potential forage for raptors. Non-listed raptors, such as those commonly observed in urban areas, are afforded protection under the MBTA and CFGC. CDFW considers the nesting period for raptors to generally occur between January 1 and June 30.

### *Cooper's hawk*

Cooper's hawk is a WL species that is a breeding resident throughout most of the wooded portion of California, ranging in elevation from sea level to above 2,700 meters. Outside of the breeding season, it disperses widely from southern Canada to northern Mexico and locally occurs less frequently in mountain areas than at lower elevations. In natural environments, Cooper's

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hawk nests primarily in oaks, eucalyptus, and riparian willows (Asay 1987), where it builds high in trees, but beneath the canopy. It forages in broken woodland and habitat edges, hunting mammals, birds, amphibians, and reptiles. A study in Orange County, California, has demonstrated that this species has successfully adapted to nesting and foraging in urban environments, where smaller birds are plentiful, and tall trees and buildings provide nesting sites (Chiang et al. 2012).

No record of this species from the Burbank or surrounding eight quadrangles exists in the CNDDDB, and this species was not discussed as present in the 2006 EIR or observed during the reconnaissance field survey. This raptor has become accustomed to urban environments and is commonly observed in natural habitats in nearby Griffith Park. The presence of tall mature trees within the BSA may provide resting or foraging perches for this species; however, disturbances associated with the urbanized BSA and with large undisturbed areas more suited for nesting in nearby Griffith Park, this species is not expected to nest in the BSA. However, due to its potential to occur as a transient from nearby natural habitats in Griffith Park, Cooper's hawk has a low potential to occur in the BSA.

#### *American Peregrine Falcon*

American peregrine falcon was delisted under FESA in 1999 and under CESA in 2009; however, it remains a CDFW Fully Protected species. It is adapted to open habitats in all seasons. Peregrins show a preference for breeding sites in proximity to water with nearby vertical structure such as niches in cliffs, steep banks, and ledges to serve as nesting sites. An abundant food source nearby is highly attractive to this specie. Coastal cliffs and bluffs are favored for nesting in California, as are granitic outcroppings in the Sierra Nevada. Peregrins are also found in urban areas and use tall buildings and bridges and other structures for resting, foraging platforms, and breeding sties and were documented using these urban environments early in the 20<sup>th</sup> century. California currently supports many pairs of urban-nesting peregrine falcons (Comrack and Logsdon 2008).

One record of this species exists in the CNDDDB from the Pasadena quad, east of the BSA. Specific occurrence information is not provided in the CNDDDB; however, the area is generally urbanized. As previously indicated, this raptor has become accustomed to urban environments and has potential to occur as a foraging or migrating transient in the BSA. Although not anticipated to nest in the BSA, the presence of open habitats associated with cemeteries and Griffith Park in proximity of the BSA, and the potential for these areas to support sufficient small urban birds and mammals as prey, American peregrine falcon has a low potential to occur in the BSA.

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### Special-Status Passerine and Non-Passerine Landbirds

Passerines (perching birds) are a taxonomic grouping that consists of several families including swallows (*Hirundinidae*); larks (*Alaudidae*); crows, ravens, and jays (*Corvidae*); shrikes (*Laniidae*); vireos (*Vireonidae*); finches (*Fringillidae*); and Emberizids (*Emberizidae*; warblers, sparrows, blackbirds, etc.), among others. Non-passerine land birds are a non-taxonomic-based grouping typically used by ornithologists to categorize a loose assemblage of birds. Families grouped into this category include kingfishers (*Alcedinidae*), woodpeckers (*Picidae*), swifts (*Apodidae*), hummingbirds (*Trochilidae*), and pigeons and doves (*Columbidae*), among others. Habitat, nesting, and foraging requirements for these species are wide ranging; therefore, outlining generic habitat requirements for this grouping is difficult. These species typically use most habitat types and are known to nest on the ground; in shrubs and trees; on buildings; under bridges; and within cavities, crevices, and manmade structures. Many of these species migrate over long distances and all species, except starlings, English house sparrows, and rock doves (pigeons), are protected under the federal MBTA and CFGC. CDFW generally considers the nesting period for passerines and non-passerine land birds to generally occur between February 1 and September 1, depending on species and climatic conditions.

Although consisting primarily of ornamental species, vegetation in the BSA provide potentially suitable nesting and foraging habitat for passerines and non-passerine land birds found in urban environments such as American crow, black phoebe, sparrows, house finch, lesser goldfinch, yellow-rumped warbler, and other species that were observed during previous surveys.

Several special-status passerine and non-passerine land bird species were considered during the preparation of this report because the Project falls within the vicinity of historical occurrences of such species, including southwestern willow flycatcher, coastal California gnatcatcher, western yellow-billed cuckoo, bank swallow, and least Bell's vireo. These species are not expected to occur within the BSA due to a lack of suitable habitat (see Table B, Appendix B).

### **3.3 SENSITIVE NATURAL COMMUNITIES**

Sensitive natural communities are those that are designated as rare in the region by the CNDDB, support special-status plant or wildlife species, or receive regulatory protection (i.e., Section 404 of the Clean Water Act (CWA) and/or Sections 1600 et seq. of the CFGC). Rare communities are given the highest inventory priority (Holland 1986; CDFG 2010). Based on a review of the CNDDB (CDFW 2020), eight sensitive vegetative communities have been recorded within the Burbank and surrounding eight quadrangles, including California Walnut Woodland, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chur/Santa Ana Sucker Stream, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed

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Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Walnut Forest. As previously described, no natural vegetation communities occur in the BSA. They are primarily known from relatively undisturbed areas in the Santa Monica Mountains, Verdugo Mountains, and the Angeles National Forest.

Although the BSA captures a small portion of the concrete-lined channel of the Los Angeles River, no aquatic resources including riparian areas or wetlands that would fall under the jurisdiction of several federal and state regulatory agencies occurs at the proposed location for the flow control station.

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## **CHAPTER 4.0**

### **APPLICABLE REGULATIONS**

As discussed in some of the previous chapters, several regulations have been established by federal, state, and local agencies to protect and conserve biological resources. The descriptions below provide an overview of agency regulations that may be applicable to the resources that occur within the Project components and regulations that require an analysis per requirements of the SRF Environmental Package application. The final determination of whether permits are required is made by the regulating agencies.

#### **4.1 FEDERAL REGULATIONS AND STANDARDS**

##### *Federal Endangered Species Act (ESA)*

Enacted in 1973, the federal ESA provides for the conservation of threatened and endangered species and their ecosystems (United States Code [U.S.C.] Title 16, Chapter 35, Sections 1531–1544). The ESA prohibits the “take” of threatened and endangered species except under certain circumstances and only with authorization from USFWS through a permit under Section 4(d), 7 or 10(a) of the ESA. “Take” under the ESA is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

Formal consultation under Section 7 of the ESA would be required if the Project had the potential to affect a federally listed species that has been detected within or adjacent to the BSA. No federally listed species are anticipated to be affected by the Project as habitat potentially suitable for such species does not occur within the BSA.

##### *Migratory Bird Treaty Act*

Congress passed the MBTA in 1918 to prohibit the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA (U.S.C. Title 16, Chapter 7, Subchapter II, Sections 703–712). The prohibition applies to birds included in the respective international conventions between the United States and Great Britain, the United States and Mexico, the United States and Japan, and the United States and Russia.

No permit is issued under the MBTA; however, the Project would need to employ measures provided in the 2006 EIR’s Mitigation Monitoring Plan (MMP) that would avoid or minimize impacts on protected migratory birds.



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### *Clean Water Act*

Under Section 404 of the CWA, the USACE regulates the discharge of dredged or fill material into jurisdictional waters of the U.S., which include those waters listed in 33 CFR 328.3 (Definitions) (U.S.C. Title 33, Chapter 26, Sections 101–607). Section 401 of the CWA requires a water quality certification from the state for all permits issued by the Corps under Section 404 of the CWA. RWQCB is the state agency in charge of issuing a CWA Section 401 water quality certification or waiver.

Project construction would not impact protected wetlands or waters and a permit under Section 404 of the CWA is not required.

### *Magnuson-Stevens Fishery Conservation and Management Act*

Under the purview of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), amendments in 1996 to the Magnuson-Stevens Fishery Conservation and Management Act set forth a number of mandates for NMFS, Regional Fishery Management Councils, and federal action agencies to identify and protect important marine and anadromous fish habitat. The Councils, with assistance from NMFS, are required to delineate Essential Fish Habitat (EFH) in fishery management plans for all managed species. EFH is defined to include “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (in the 1997 Interim Final Rule [62 Fed. Reg. 66551, Section 600.10 Definitions]). Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include historic areas if appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle (PFMC 2020).

The BSA is located within an urbanized area of the San Fernando Valley and does not include any EFH.

### *Protection of Wetlands – Executive Order Numbers 11990 and 12608*

Under this Executive Order (EO) issued May 24, 1977 and amended by EO 12608, Federal agencies must provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands (42 CFR 26961; 3 CFR 1977 Comp., p. 121). Each agency, to the extent permitted by law, must avoid undertaking or providing assistance for new construction located in wetlands unless the head of

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the agency finds: there is no practical alternative to such construction; the proposed action includes all practical measures to minimize harm to wetlands that may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors. Each agency must also provide opportunity for early public review of any plans or proposals for new construction in wetlands (FedCenter 2017).

Wetlands or other waters of the U.S. as defined by the 1987 Wetland Delineation Manual (Corps 1987), do not occur at the proposed location for the flow control station. A small portion of the concrete-lined Los Angeles River channel coincides with the BSA; however, the river is separated from the proposed location for the flow control station by disturbed habitat resulting from construction of the underground reservoirs at the HWSG. As a result, impacts to protected wetlands and waters would not occur.

#### *Wild and Scenic Rivers Act*

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection (NWSRS 2020).

The BSA is not located within the watershed of a wild and scenic river.

#### *Coastal Zone Management Act*

The U.S. Congress recognized the importance of meeting the challenge of continued growth in the coastal zone by passing the Coastal Zone Management Act in 1972 (Public Law 109-58; 16 U.S.C. 1451 et seq.). This act, administered by NOAA, provides for the management of the nation's coastal resources, including the Great Lakes. The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The BSA is not located in the City of Los Angeles Coastal Zone or the State Coastal Zone.

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## 4.2 STATE REGULATIONS AND STANDARDS

### *California Fish and Game Code*

The CFGC regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as impacts to natural resources such as wetlands and waters of the state. It includes the California Endangered Species Act (CESA) (Sections 2050–2115) and Streambed Alteration Agreement (SAA) regulations (Section 1600 et seq.).

Wildlife “take” is defined by CDFW as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Protection extends to the animals, dead or alive, and all their body parts. Section 2081 of CESA allows CDFW to issue an incidental take permit for state-listed threatened or endangered species, should the proposed Project have the potential to “take” a state-listed species that has been detected within or adjacent to the Project. Certain criteria are required under CESA prior to the issuance of such a permit, including the requirement that impacts of the take are minimized and fully mitigated.

Although the BSA coincides with a small portion of the Los Angeles River, no waters, wetlands, or riparian habitat under state jurisdiction occurs at the proposed location for the flow control station, and as a result, issuance of an SAA is not required. Additionally, no state-listed species are anticipated to be affected by the Project as habitat potentially suitable for such species does not occur within the BSA, and as a result, a permit under Section 2081 is not anticipated for the Project.

### *Porter-Cologne Water Quality Control Act*

Under Section 13000 et seq., of the Porter-Cologne Act, RWQCB is the agency that regulates discharges of waste and fill material within any region that could affect a water of the state (CWC 13260[a]), (including wetlands and isolated waters) as defined by CWC Section 13050(e).

A permit under Porter-Cologne is not required for Project activities as no waters of the state coincide with the proposed location for the flow control station.

### *California Environmental Quality Act<sup>1</sup>*

CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. CEQA does not specifically define what constitutes an

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<sup>1</sup> PRC Section 21000 et seq. and the State CEQA Guidelines, California Code of Regulations, Section 15000 et seq.

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“adverse effect” on a biological resource. Instead, lead agencies are charged with determining what specifically should be considered an impact.

This addendum to the 2006 EIR is being prepared in compliance with CEQA.

#### **4.3 LOCAL REGULATIONS AND STANDARDS**

##### *Significant Ecological Area Program*

Los Angeles County first began to inventory biotic resources and identify important areas of biological diversity in the 1970s. Today, the primary mechanism used by the County to conserve biological diversity is a planning overlay called Significant Ecological Areas designated in the County’s General Plan Conservation/Open Space Element. Together, the General Plan overlays and a SEA conditional use permit (CUP) process are referred to as the SEA Program. SEAs are ecologically important land and water systems that support valuable habitat for plants and animals, often integral to the preservation of rare, threatened, or endangered species and the conservation of biological diversity in Los Angeles County. While SEAs are not preserves, they are areas where Los Angeles County deems it important to facilitate a balance between development and resource conservation. Development activities in the SEAs are reviewed closely in order to conserve water and biological resources such as streams, oak woodlands, and threatened or endangered species and their habitat. The intent of the proposed SEA regulations is not to preclude development, but to allow controlled development without jeopardizing the biotic diversity of Los Angeles County. Development within the boundaries of an SEA requires a CUP, which is reviewed by the Significant Ecological Area Technical Advisory Committee (SEATAC). SEATAC is an advisory committee to the County’s Regional Planning Commission that specializes in various areas of biology in Los Angeles County.

The BSA does not occur within a SEA. The Griffith Park SEA lies approximately 0.70 mile east-southeast of the BSA.

##### *City of Los Angeles Native Tree Protection Ordinance*

In response to the City’s declining oak tree population, an oak tree protection ordinance was enacted in 1982. To further slow the decline of native trees, the City amended the two City Municipal Code sections pertaining to oak trees in April 2006 to include southern California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*) (Section 17.02 of City Municipal Code). The Board of Public Works must issue a permit before any alterations to protected trees are made that could cause them to be

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damaged, relocated or removed. Pruning also requires a permit and must comply with the pruning standards set forth by the Western Chapter of the International Society of Arboriculture.

Tree species protected under the City's Oak Tree Ordinance were not observed within the BSA during the reconnaissance survey. As a result, compliance with this ordinance is not anticipated.

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## CHAPTER 5.0

### IMPACTS ON BIOLOGICAL RESOURCES

Biological resources may be either directly or indirectly impacted by a project. Direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below.

- **Direct:** Any alteration, physical disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include clearing vegetation, loss of individual species and/or their habitats, and encroaching into wetlands or a river.
- **Indirect:** As a result of project-related activities, biological resources may also be affected in a manner that is ancillary to physical impacts. Examples include elevated noise and dust levels, soil compaction, increased human activity, decreased water quality, and the introduction of invasive wildlife (domestic cats and dogs) and plants.
- **Permanent:** All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.
- **Temporary:** Any impacts considered to have reversible impacts on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction, or removing vegetation and either allowing the natural vegetation to recolonize or actively revegetating the impact area. Surface disturbance that removes vegetation and disturbs the soil is considered a long-term temporary impact because of slow natural recovery in arid ecosystems.

Impacts on biological resources due to construction activities are described in this chapter, and could include such impacts as elevated noise and dust levels during construction.

Potential direct and indirect impacts from construction and operations activities to vegetation, wildlife, special-status plant and wildlife species, sensitive natural communities, and wildlife movement corridors are presented in the following chapters. The 2006 EIR included mitigation measures to reduce impacts to biological resources to a level below significance. These mitigation measures were formalized in the MMP of the 2006 EIR.

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## **5.1 VEGETATION**

### **5.1.1 Construction**

#### **5.1.1.1 Vegetation Communities**

Construction of the proposed flow control station would occur in an urban developed area consisting of a paved parking area. No vegetation would be removed to install the flow control station. As a result, impacts would not be considered significant.

Indirect impacts to vegetation communities outside the Project site could include the accumulation of fugitive dust, and the colonization of nonnative, invasive plant species. Other indirect impacts could include an increase in the amount of compacted or modified surfaces that, if not controlled, could increase the potential for surface runoff, increased erosion, and sediment deposition within vegetation beyond the Project's footprint. With implementation of the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, indirect impacts to vegetation communities outside the BSA would be avoided and minimized, and not be considered significant.

#### **5.1.1.2 Special-Status Plant Species**

Individual special-status plant species could be damaged or destroyed from crushing or trampling during construction activities; however, construction of the flow control station would occur in an area that has previously been developed and disturbed and is unsuitable for special-status species. No federal or state-listed plant species were identified as present in the 2006 EIR, nor is habitat potentially suitable for protected plant species present within the BSA. In addition, erosion control measures to control surface runoff, erosion, and sedimentation outside of the Project footprint would be implemented to avoid indirect impacts to special-status plant species potentially occurring in proximity of the Project. As a result, direct and indirect impacts to special-status plant species are not anticipated.

### **5.1.2 Operations**

Operations and routine maintenance of the flow control station would be conducted within previously-disturbed urban developed areas, most of which consist of paved surfaces or bare ground. As a result, impacts to vegetation communities and special-status plant species during operation of the Project would not occur.

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The impact analysis presented here for Vegetation is consistent with the analysis in the 2006 EIR. No new mitigation measures beyond those included in the MMP of the 2006 EIR are required.

## **5.2 WILDLIFE**

### **5.2.1 Construction**

Project construction could potentially affect wildlife and wildlife habitat, including construction-related noise disturbance and disruption of movement and potential wildlife mortality. Short-term impacts of construction on wildlife resources would result from wildlife avoidance of the immediate construction zone. Noise and other disturbances caused by heavy equipment and construction crews may cause wildlife to move away from the construction zone. Any vegetation removal during construction could result in the mortality of individual wildlife species. Species with limited mobility or that occupy burrows within the construction zone could be crushed during Project activities.

No federal or state-listed wildlife species were identified as present in the 2006 EIR and habitat potentially suitable for such species are absent from the BSA. However, Cooper's hawk and American peregrine falcon have a low potential to occur in the BSA. In addition, birds protected by the MBTA and CFGC have the potential to nest within the BSA.

#### **5.2.1.1 Birds**

##### *Raptors*

Two special-status raptor species, Cooper's hawk and American peregrine falcon, have potential to occur within the BSA as foraging or migrating transients. By adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, direct impacts to special-status raptor species would be avoided and minimized, and would be less than significant.

Construction noise may indirectly affect raptor species if they are present in the vicinity, causing them to change their behavior and move out of the area. By adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, direct and indirect impacts to raptor species would be avoided and minimized, and would be less than significant.

##### *Nesting Birds*



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Birds protected by the MBTA and CFGC have the potential to nest in and near the Project, utilizing landscape/ornamental trees occurring in the BSA. As a result, direct impacts to nesting birds could occur; however, by adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, direct impacts to special-status wildlife species would be avoided and minimized, and would be less than significant.

Indirect impacts to nesting birds within the vicinity of the Project could occur as a result of noise, increased human presence, and vibrations resulting from construction activities. Disturbances related to construction could result in increased nestling mortality due to nest abandonment or decreased feeding frequency. By adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, indirect impacts to nesting birds would be avoided and minimized, and would be less than significant.

#### **5.2.1.2 Mammals**

Although no special-status mammal species are expected to occur within the BSA, the presence of mature trees provides potentially suitable roosting habitat for bats within the vicinity of the Project. Potentially suitable colonial roosting sites do not occur within the BSA, as caves are absent and large suitable structures are limited in the Project vicinity. As a result, direct impacts to bats are not anticipated; however, by adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, direct impacts to special-status bat species would be avoided and minimized, and would be less than significant.

Indirect impacts to special-status bats roosting within the vicinity of the Project could occur as a result of noise, increased human presence, and vibrations resulting from construction activities. Disturbances related to construction could result in displacement from daytime roosts. Disruption of night-time roosts is not anticipated as construction will not occur during dusk or evening hours. By adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, indirect impacts to special-status bat species would be avoided and minimized, and would be less than significant.

#### **5.2.2 Operations**

Impacts during operations and routine maintenance would be limited; however, wildlife could be affected by human presence, noise, and fugitive dust. Impacts are expected to be minimal, short term, and in most cases would not directly affect wildlife. Maintenance activities would generally be conducted from within paved surfaces or bare ground. As a result, impacts to special status wildlife species are not anticipated during operation and maintenance activities.

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The impact analysis presented here for Wildlife is consistent with the analysis in the Project's certified EIR. No new mitigation measures beyond those included in the MMP of the 2006 EIR are required.

### **5.3 SENSITIVE NATURAL COMMUNITIES**

#### **5.3.1 Construction**

No sensitive natural communities coincide with the proposed location of the flow control station. Additionally, no riparian habitat occurs along the small portion of the concrete-lined channel of the Los Angeles River that coincides with the BSA. As a result, direct impacts to such communities would not occur.

Indirect impacts to sensitive natural communities during construction could include the accumulation of fugitive dust, increase of surface runoff, increase of erosion, and increase of sediment deposition within vegetation beyond the proposed footprint of the flow control station. As sensitive natural communities are absent from the BSA, indirect impacts to such communities are not anticipated. Further, natural communities within Griffith Park are a sufficient distance from Project construction activities that indirect impacts to such communities within the park are not anticipated.

#### **5.3.2 Operation**

Operation and routine maintenance of the Project would not coincide with any natural vegetation communities. As a result, direct and indirect impacts during operation and routine maintenance would not occur.

The impact analysis presented here for Sensitive Natural Communities is consistent with the analysis in the Project's certified EIR. No new mitigation measures beyond those included in the MMP of the 2006 EIR are required.

### **5.4 WILDLIFE MOVEMENT CORRIDOR**

#### **5.4.1 Construction**

There are no regional wildlife movement corridors associated with the Project site. As an active construction site with limited vegetation to provide forage, rest, or escape cover, wildlife would be likely to avoid the Project site. Birds may, however, utilize mature trees in the BSA along Forest Lawn Drive and in Mt. Sinai Park for localized dispersal. Additionally, a small portion of

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the Los Angeles River occurs in the far northern portion of the BSA, and although encased in concrete and void of riparian habitat, it may serve as a wildlife movement corridor within the heavily urbanized San Fernando Valley. Trees would not be removed during Project construction, and Project activities would not occur near the river channel. As a result, no direct impacts to localized wildlife movement would occur.

Indirect effects during construction due to human presence, noise, and dust could occur. In the event that indirect impacts to the mature trees and river's function as a wildlife movement corridor occur, they would be temporary in nature and restricted to the construction time period. Project construction activities would not occur at dusk or overnight, and, therefore, would also not indirectly impact bat species. The functions and values of mature trees along Forest Lawn Drive and in Mt. Sinai Park, and of the Los Angeles River for localized wildlife movement would be unchanged from current conditions upon the completion of construction. As a result, long-term impacts to localized wildlife movement would also not occur.

The impact analysis presented here for Wildlife Movement Corridor is consistent with the analysis in the Project's certified EIR. No new mitigation measures beyond those included in the MMP of the 2006 EIR are required.

#### **5.4.2 Operation**

It is anticipated that impacts to mature trees along Forest Lawn Drive and in Mt. Sinai Park, and the to the river channel would not occur during operation and routine maintenance of the Project, allowing continued localized wildlife movement in the Project vicinity. Activities would occur in previously disturbed areas within the Project site and are not anticipated to directly or indirectly affect wildlife use of nearby resources as a wildlife movement corridor. Additionally, operations and maintenance activities would also not directly or indirectly impact Griffith Park's function as a wildlife movement corridor, due to the distance between the Project and these areas.

### **5.5 POTENTIAL JURISDICTIONAL AQUATIC FEATURES**

#### **5.5.1 Construction**

No potentially jurisdictional aquatic features coincide with the proposed location for the flow control station. Project activities would occur within a developed area disturbed by previous activities at the HWSG site. As a result, no direct impacts to such features would occur.

Potential indirect impacts to the Los Angeles River, which is several hundred feet north of the Project site, may result from stormwater runoff during construction activities where a reduction

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in water quality resulting from increased sedimentation or other contaminants could occur. These water quality changes could potentially reduce the quality of aquatic habitats, affecting aquatic life in the river. A Storm Water Pollution Prevention Plan (SWPPP) prepared for the Project would address potential water quality impacts to the river, and further, by adhering to the mitigation measures provided in the MMP of the 2006 EIR, and as presented in Chapter 6, potential indirect impacts to aquatic life in the river would be avoided and minimized, and would be less than significant.

### **5.5.2 Operation**

Operation of the Project and routine maintenance activities are not anticipated to coincide with jurisdictional waters. As a result, direct and indirect impacts during operation and routine maintenance would not occur.

The impact analysis presented here for Potential Jurisdictional Aquatic Features is consistent with the analysis in the 2006 EIR. No new mitigation measures beyond those in the MMP of the 2006 EIR are required.

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## **CHAPTER 6.0**

### **RECOMMENDED AVOIDANCE AND MINIMIZATION MEASURES**

The following mitigation measures are taken from the MMP of the 2006 EIR and are considered valid and accurate. No new mitigation measures are proposed.

Mitigation measures to minimize construction impacts include:

**BIO-1** Rare plant surveys shall be carried out in the off-road segment of the proposed project alignment in Unit 1a and in any segment of the proposed alignment through Griffith Park that would pass through native vegetation or vegetation that contains native species. Surveys shall be completed during the spring and early summer (March to June) prior to construction, depending on growth conditions. A survey report shall be submitted to the City of Los Angeles Department of Recreation and Parks (LADRP) for review. In the event that the rare plant surveys yield positive results, LADWP would comply with applicable rules and regulations.

**BIO-2** To protect existing natural plant communities, LADWP shall use below ground construction in Unit 1a where the alignment deviates from Zoo Drive within Griffith Park. The dimensions of the jacking pits shall be minimized or the pits shall be placed to avoid direct or indirect impacts to native plant communities or native or nonnative mature trees, to the extent feasible.

**BIO-3** In those units where the discharge point for hydrostatic test water would be located within or upstream of soft-bottomed segments of the Los Angeles River (specifically in the soft-bottomed segment adjacent to Griffith Park) or its tributaries, the rate of discharge of the water shall be compatible with the range of flows naturally occurring within the affected reach during that time of the year to avoid or reduce impacts to the aquatic environment. This measure shall be implemented to the degree possible without conflicting with any requirements imposed by the Regional Water Quality Control Board.

**BIO-4** LADWP shall employ a qualified biological monitor with suitable background and experience to identify sensitive biological resources and monitor implementation of all the biological mitigation measures within natural areas, open space or parks where sensitive biological resources may be present.

**BIO-5** Pre-construction bird surveys shall be conducted in all vegetated areas of Units 1a, 1b, 2, 3 and 4 from the Headworks Spreading Grounds site through Griffith Park. The surveys

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shall identify the presence of breeding or nesting pairs or active nests of special status bird species within the project and construction footprint and an additional distance of 500 feet. In the event that surveys indicate habitat occupied by special status bird species within 500 feet of the construction or project footprint, appropriate construction protocol will be developed and implemented.

**BIO-6** LADWP shall manage their construction site, and related facilities, in a manner to avoid or minimize impacts to the local biological resources by implementing the following within Units 1a, 1b, 2, 3 and 4 in the segments from the Headworks Spreading Grounds site through Griffith Park:

- Temporarily cover pits and trenches or provide wildlife escape ramps or an approved exclusionary fence for construction areas that contain steep walled holes or trenches that are not required to be covered for human safety reasons. The temporary fence shall be hardware cloth or of similar materials that are approved for use by the U.S. Fish and Wildlife Service and the California Department of Fish and Game;
- Make certain all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;
- Prohibit pets from being brought to the site;
- Report all inadvertent deaths or injuries of wildlife to the biological monitor who will in turn, notify and follow instruction provided by LADRP;
- Use native coastal sage scrub, chaparral species in the restoration of land temporarily disturbed during pipeline installation (see Mitigation Measures BIO-7 through BIO-9 below);
- Restore temporarily disturbed sites to their pre-existing physical condition; and
- Ephemeral drainages shall be restored to pre-construction topography/contours and compaction immediately following construction and installation activities. Furthermore, the proposed disturbance to such features may not affect (i.e., act as a barrier to) existing surrounding hydrologic conditions.

**BIO-7** LADWP shall complete a report that identifies all trees, including mature native and nonnative trees, that would be directly or indirectly impacted by project construction. For ease of interpretation “mature” shall be defined consistent with the City of Los Angeles’ tree protection ordinance as 8 inches in diameter and greater than 4.5 feet high. This includes all trees whose canopy is located entirely or partially within the pipeline alignment or construction footprint. It shall include trees that are located in segments where underground jacking will occur. The report shall indicate the location, species, size and condition of affected trees and a proposed plan for protection, relocation or replacement. The report shall be provided to the LADRP, Division of Forestry, and the Los Angeles Department of Public Works (LADPW).

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**BIO-8** LADWP shall coordinate with the LADPW and the LADRP prior to construction to determine the applicable measures that need to be implemented from the LADPW Street Tree Policy and the LADRP Tree Preservation Policy. The purpose of this coordination shall be to identify construction protocols that would be implemented to reduce construction damage, and the pruning, removal and replacement of trees, including heritage trees, special value trees and common park trees.

**BIO-9** For any mature native or nonnative tree that must be removed, LADWP shall prefer replacement or relocation of trees within the same park or residential area in coordination with the LADPW, as applicable, for trees affected on city streets, or LADRP, as applicable, for trees affected within city parks. Nonnative trees removed within Griffith Park that cannot be successfully relocated shall be replaced with native trees consistent with LADRP recommendations.



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## **CHAPTER 7.0**

### **CONCLUSIONS**

Implementation of mitigation measures identified in the MMP of the 2006 EIR would result in no significant impact upon any federally listed or state-listed threatened, endangered, or candidate plant species, or other species tracked by the CNDDDB and occurring or potentially occurring within the Project. No direct impacts to special-status plant species are anticipated, as no such species were observed during the field survey, and the BSA lacks suitable habitat. Upon implementation of the mitigation measures taken from the MMP and presented in Chapter 6, indirect impacts on special-status plants would also be less than significant.

Two special-status wildlife species have low potential to occur within the BSA or immediate vicinity. In addition, birds protected by the MBTA and CFGC have the potential to nest on-site or in proximity. Potential direct impacts to these species are associated with vegetation removal; however, no vegetation would be removed for construction of the flow control station. Potential indirect impacts are associated with noise, dust, vibration, and increased human activity, which could cause individuals to change their behavior and move out of the area. Implementation of the mitigation measures identified in the MMP of the 2006 EIR, and presented in Chapter 6, would avoid disturbance of these species, resulting in less than significant impacts to special-status wildlife species and nesting birds.

Construction and operation of the Project would not directly affect a wildlife movement corridor, as none occur within the Project footprint. Additionally, by adhering to the mitigation measures identified in the MMP of the 2006 EIR, and presented in Chapter 6, indirect impacts to localized wildlife movement through the BSA and vicinity, would also be avoided and would be less than significant.

Construction and operation of the Project would not result in unavoidable impacts to jurisdictional waters of the U.S. and state.

These conclusions and recommendations are consistent with the 2006 EIR.

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## CHAPTER 8.0

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## **APPENDIX A**

### **Results of Database Searches of the California Natural Diversity Data Base (CNDDB) California Native Plant Society (CNPS) Information for Planning and Conservation (IPaC)**







## Selected Elements by Scientific Name

### California Department of Fish and Wildlife

#### California Natural Diversity Database



**Query Criteria:** Quad (San Fernando (3411834) OR Sunland (3411833) OR Condor Peak (3411832) OR Van Nuys (3411824) OR Burbank (3411823) OR Pasadena (3411822) OR Beverly Hills (3411814) OR Hollywood (3411813) OR Los Angeles (3411812))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Aimophila ruficeps canescens</i></b> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
<b><i>Anaxyrus californicus</i></b> arroyo toad	AAABB01230	Endangered	None	G2G3	S2S3	SSC
<b><i>Anniella spp.</i></b> California legless lizard	ARACC01070	None	None	G3G4	S3S4	SSC
<b><i>Anniella stebbinsi</i></b> southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
<b><i>Antrozous pallidus</i></b> pallid bat	AMACC10010	None	None	G5	S3	SSC
<b><i>Arctostaphylos glandulosa ssp. gabrielensis</i></b> San Gabriel manzanita	PDERI042P0	None	None	G5T3	S3	1B.2
<b><i>Arenaria paludicola</i></b> marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
<b><i>Arizona elegans occidentalis</i></b> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<b><i>Aspidoscelis tigris stejnegeri</i></b> coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
<b><i>Astragalus brauntonii</i></b> Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
<b><i>Astragalus pycnostachyus var. lanosissimus</i></b> Ventura Marsh milk-vetch	PDFAB0F7B1	Endangered	Endangered	G2T1	S1	1B.1
<b><i>Astragalus tener var. titi</i></b> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
<b><i>Athene cunicularia</i></b> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<b><i>Atriplex coulteri</i></b> Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
<b><i>Atriplex pacifica</i></b> south coast saltscale	PDCHE041C0	None	None	G4	S2	1B.2
<b><i>Atriplex parishii</i></b> Parish's brittlescale	PDCHE041D0	None	None	G1G2	S1	1B.1
<b><i>Atriplex serenana var. davidsonii</i></b> Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
<b><i>Berberis nevinii</i></b> Nevin's barberry	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
<b><i>Bombus crotchii</i></b> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	



# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Buteo swainsoni</i></b> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<b><i>California Walnut Woodland</i></b> California Walnut Woodland	CTT71210CA	None	None	G2	S2.1	
<b><i>Calochortus clavatus</i> var. <i>gracilis</i></b> slender mariposa-lily	PMLIL0D096	None	None	G4T2T3	S2S3	1B.2
<b><i>Calochortus palmeri</i> var. <i>palmeri</i></b> Palmer's mariposa-lily	PMLIL0D122	None	None	G3T2	S2	1B.2
<b><i>Calochortus plummerae</i></b> Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
<b><i>Calystegia felix</i></b> lucky morning-glory	PDCON040P0	None	None	G1Q	S1	1B.1
<b><i>Carolella busckana</i></b> Busck's gallmoth	IILEM2X090	None	None	G1G3	SH	
<b><i>Castilleja gleasoni</i></b> Mt. Gleason paintbrush	PDSCR0D140	None	Rare	G2	S2	1B.2
<b><i>Catostomus santaanae</i></b> Santa Ana sucker	AFCJC02190	Threatened	None	G1	S1	
<b><i>Centromadia parryi</i> ssp. <i>australis</i></b> southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
<b><i>Centromadia pungens</i> ssp. <i>laevis</i></b> smooth tarplant	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
<b><i>Chloropyron maritimum</i> ssp. <i>maritimum</i></b> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
<b><i>Chorizanthe parryi</i> var. <i>fernandina</i></b> San Fernando Valley spineflower	PDPGN040J1	Proposed Threatened	Endangered	G2T1	S1	1B.1
<b><i>Chorizanthe parryi</i> var. <i>parryi</i></b> Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
<b><i>Cicindela hirticollis</i> <i>gravida</i></b> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<b><i>Coccyzus americanus occidentalis</i></b> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b><i>Coelus globosus</i></b> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<b><i>Corynorhinus townsendii</i></b> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<b><i>Coturnicops noveboracensis</i></b> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<b><i>Danaus plexippus</i> pop. 1</b> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<b><i>Diadophis punctatus modestus</i></b> San Bernardino ringneck snake	ARADB10015	None	None	G5T2T3	S2?	



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Dithyrea maritima</i></b> beach spectaclepod	PDBRA10020	None	Threatened	G1	S1	1B.1
<b><i>Dodecahema leptoceras</i></b> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
<b><i>Dudleya multicaulis</i></b> many-stemmed dudleya	PDCRA040H0	None	None	G2	S2	1B.2
<b><i>Empidonax traillii extimus</i></b> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S1	
<b><i>Emys marmorata</i></b> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<b><i>Eumops perotis californicus</i></b> western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
<b><i>Falco peregrinus anatum</i></b> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<b><i>Gila orcuttii</i></b> arroyo chub	AFCJB13120	None	None	G2	S2	SSC
<b><i>Harpagonella palmeri</i></b> Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2
<b><i>Helianthus nuttallii ssp. parishii</i></b> Los Angeles sunflower	PDAST4N102	None	None	G5TH	SH	1A
<b><i>Horkelia cuneata var. puberula</i></b> mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
<b><i>Imperata brevifolia</i></b> California satintail	PMPOA3D020	None	None	G4	S3	2B.1
<b><i>Lasionycteris noctivagans</i></b> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<b><i>Lasiurus cinereus</i></b> hoary bat	AMACC05030	None	None	G5	S4	
<b><i>Lasiurus xanthinus</i></b> western yellow bat	AMACC05070	None	None	G5	S3	SSC
<b><i>Lasthenia glabrata ssp. coulteri</i></b> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<b><i>Lepidium virginicum var. robinsonii</i></b> Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
<b><i>Lepus californicus bennettii</i></b> San Diego black-tailed jackrabbit	AMAEB03051	None	None	G5T3T4	S3S4	SSC
<b><i>Linanthus concinnus</i></b> San Gabriel linanthus	PDPLM090D0	None	None	G2	S2	1B.2
<b><i>Malacothamnus davidsonii</i></b> Davidson's bush-mallow	PDMAL0Q040	None	None	G2	S2	1B.2
<b><i>Microtus californicus stephensi</i></b> south coast marsh vole	AMAFF11035	None	None	G5T1T2	S1S2	SSC



# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Nama stenocarpa</i></b> mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
<b><i>Nasturtium gambelii</i></b> Gambel's water cress	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1
<b><i>Navarretia prostrata</i></b> prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
<b><i>Neotoma lepida intermedia</i></b> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<b><i>Nyctinomops macrotis</i></b> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<b><i>Onychomys torridus ramona</i></b> southern grasshopper mouse	AMAFF06022	None	None	G5T3	S3	SSC
<b><i>Orcuttia californica</i></b> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
<b><i>Perognathus longimembris brevinasus</i></b> Los Angeles pocket mouse	AMAFD01041	None	None	G5T1T2	S1S2	SSC
<b><i>Phrynosoma blainvillii</i></b> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<b><i>Poliophtila californica californica</i></b> coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
<b><i>Pseudognaphalium leucocephalum</i></b> white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
<b><i>Quercus dumosa</i></b> Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
<b><i>Rana muscosa</i></b> southern mountain yellow-legged frog	AAABH01330	Endangered	Endangered	G1	S1	WL
<b><i>Rhinichthys osculus ssp. 3</i></b> Santa Ana speckled dace	AFCJB3705K	None	None	G5T1	S1	SSC
<b><i>Ribes divaricatum var. parishii</i></b> Parish's gooseberry	PDGRO020F3	None	None	G5TX	SX	1A
<b><i>Riparia riparia</i></b> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<b><i>Riversidian Alluvial Fan Sage Scrub</i></b> Riversidian Alluvial Fan Sage Scrub	CTT32720CA	None	None	G1	S1.1	
<b><i>Setophaga petechia</i></b> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<b><i>Sidalcea neomexicana</i></b> salt spring checkerbloom	PDMAL110J0	None	None	G4	S2	2B.2
<b><i>Socalchemmis gertschi</i></b> Gertsch's socalchemmis spider	ILARAU7010	None	None	G1	S1	
<b><i>Southern California Arroyo Chub/Santa Ana Sucker Stream</i></b> Southern California Arroyo Chub/Santa Ana Sucker Stream	CARE2330CA	None	None	GNR	SNR	



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>Southern Coast Live Oak Riparian Forest</b> Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
<b>Southern Cottonwood Willow Riparian Forest</b> Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
<b>Southern Mixed Riparian Forest</b> Southern Mixed Riparian Forest	CTT61340CA	None	None	G2	S2.1	
<b>Southern Sycamore Alder Riparian Woodland</b> Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
<b>Spea hammondi</b> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<b>Symphotrichum defoliatum</b> San Bernardino aster	PDASTE80C0	None	None	G2	S2	1B.2
<b>Symphotrichum greatae</b> Greata's aster	PDASTE80U0	None	None	G2	S2	1B.3
<b>Taricha torosa</b> Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
<b>Taxidea taxus</b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b>Thamnophis hammondi</b> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<b>Thelypteris puberula var. sonorensis</b> Sonoran maiden fern	PPTHE05192	None	None	G5T3	S2	2B.2
<b>Vireo bellii pusillus</b> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
<b>Walnut Forest</b> Walnut Forest	CTT81600CA	None	None	G1	S1.1	

Record Count: 95

**California Native Plant Society**  
**Inventory of Rare and Endangered Plants**

**9-Quad Search:** San Fernando, Sunland, Condor Peak, Van Nuys, Burbank, Pasadena, Beverly Hills, Hollywood, and Los Angeles

Scientific Name	Common Name	Rare Plant Rank	State Listing (CESA)	Federal Listing (FESA)
<i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	San Gabriel manzanita	1B.2	None	None
<i>Arenaria paludicola</i>	marsh sandwort	1B.1	Candidate	Endangered
<i>Asplenium vespertinum</i>	western spleenwort	4.2	None	None
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	1B.1	None	Endangered
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura marsh milk-vetch	1B.1	Candidate	Endangered
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	1B.1	Candidate	Endangered
<i>Atriplex coulteri</i>	Coulter's saltbush	1B.2	None	None
<i>Atriplex pacifica</i>	South Coast saltscale	1B.2	None	None
<i>Atriplex parishii</i>	Parish's brittlescale	1B.1	None	None
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale	1B.2	None	None
<i>Berberis nevinii</i>	Nevin's barberry	1B.1	Candidate	Endangered
<i>Calochortus catalinae</i>	Catalina mariposa lily	4.2	None	None
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa lily	1B.2	None	None
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa lily	1B.2	None	None
<i>Calochortus plummerae</i>	Plummer's mariposa lily	4.2	None	None
<i>Calystegia felix</i>	lucky morning-glory	1B.1	None	None
<i>Calystegia peirsonii</i>	Peirson's morning-glory	4.2	None	None
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	3	None	None
<i>Canbya candida</i>	white pygmy-poppy	4.2	None	None
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush	1B.2	Endangered	None
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	1B.1	None	None
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	1B.1	None	None
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	salt marsh bird's-beak	1B.2	Candidate	Endangered
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	1B.1	Candidate	Endangered
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	1B.1	None	None
<i>Clinopodium mimuloides</i>	monkey-flower savory	4.2	None	None
<i>Convolvulus simulans</i>	small-flowered morning-glory	4.2	None	None
<i>Diplacus johnstonii</i>	Johnston's monkeyflower	4.3	None	None
<i>Dithyrea maritima</i>	beach spectaclepod	1B.1	Candidate	None
<i>Dodecahema leptoceras</i>	slender-horned spineflower	1B.1	Candidate	Endangered
<i>Dudleya multicaulis</i>	many-stemmed dudleya	1B.2	None	None
<i>Galium johnstonii</i>	Johnston's bedstraw	4.3	None	None
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	1A	None	None
<i>Heuchera caespitosa</i>	urn-flowered alumroot	4.3	None	None
<i>Hordeum intercedens</i>	vernal barley	3.2	None	None
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	1B.1	None	None
<i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	San Gabriel Mountains sunflower	4.3	None	None
<i>Imperata brevifolia</i>	California satintail	2B.1	None	None
<i>Juglans californica</i>	Southern California black walnut	4.2	None	None
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	1B.1	None	None
<i>Lepechinia fragrans</i>	fragrant pitcher sage	4.2	None	None
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	4.3	None	None
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	4.2	None	None

Scientific Name	Common Name	Rare Plant Rank	State Listing (CESA)	Federal Listing (FESA)
<i>Linanthus concinnus</i>	San Gabriel linanthus	1B.2	None	None
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow	1B.2	None	None
<i>Muhlenbergia californica</i>	California muhly	4.3	None	None
<i>Nama stenocarpa</i>	mud nama	2B.2	None	None
<i>Nasturtium gambelii</i>	Gambel's water cress	1B.1	Candidate	Endangered
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	1B.1	None	None
<i>Phacelia hubbyi</i>	Hubby's phacelia	4.2	None	None
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	4.3	None	None
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	2B.2	None	None
<i>Quercus dumosa</i>	Nuttall's scrub oak	1B.1	None	None
<i>Quercus durata</i> var. <i>gabrielensis</i>	San Gabriel oak	4.2	None	None
<i>Quercus engelmannii</i>	Engelmann oak	4.2	None	None
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	1A	None	None
<i>Romneya coulteri</i>	Coulter's matilija poppy	4.2	None	None
<i>Rupertia rigida</i>	Parish's rupertia	4.3	None	None
<i>Senecio astephanus</i>	San Gabriel ragwort	4.3	None	None
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	2B.2	None	None
<i>Spermolepis lateriflora</i>	western bristly scaleseed	2A	None	None
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	1B.2	None	None
<i>Symphyotrichum greatae</i>	Greata's aster	1B.3	None	None
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	2B.2	None	None

CNPS, Rare Plant Program, 2020. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed 17 June 2020].



# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Los Angeles County, California



## Local office

Carlsbad Fish And Wildlife Office

☎ (760) 431-9440

📅 (760) 431-5901

2177 Salk Avenue - Suite 250  
Carlsbad, CA 92008-7385

<http://www.fws.gov/carlsbad/>

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Birds

NAME

STATUS

**California Condor** *Gymnogyps californianus***Endangered**

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/8193>

**Coastal California Gnatcatcher** *Poliophtila californica californica***Threatened**

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/8178>

## Flowering Plants

NAME	STATUS
<b>Nevin's Barberry</b> <i>Berberis nevinii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8025">https://ecos.fws.gov/ecp/species/8025</a>	<b>Endangered</b>

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>

- Nationwide conservation measures for birds

<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

**Allen's Hummingbird** *Selasphorus sasin*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9637>

Breeds Feb 1 to Jul 15

**Clark's Grebe** *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Dec 31

**Common Yellowthroat** *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

**Costa's Hummingbird** *Calypte costae*

Breeds Jan 15 to Jun 10

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9470>

**Golden Eagle** *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

**Lawrence's Goldfinch** *Carduelis lawrencei*

Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9464>

**Nuttall's Woodpecker** *Picoides nuttallii*

Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

**Oak Titmouse** *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

**Rufous Hummingbird** *Selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

**Song Sparrow** *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

**Spotted Towhee** *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

**Whimbrel** *Numenius phaeopus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9483>

**Wrentit** *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

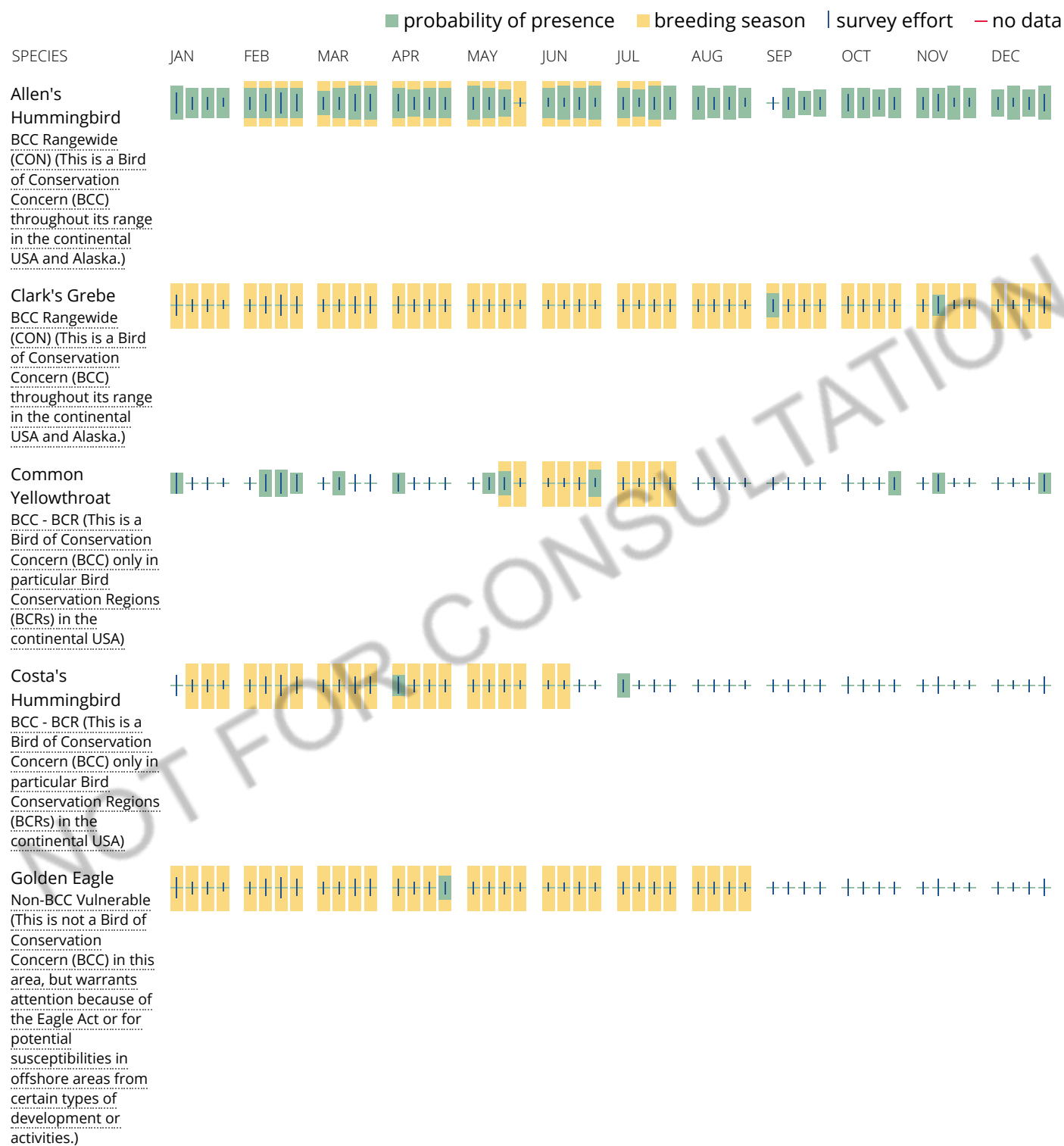
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.









Wrentit

BCC Rangewide

(CON) (This is a Bird  
of Conservation  
Concern (BCC)  
throughout its range  
in the continental  
USA and Alaska.)



**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

## Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1Ax](#)

RIVERINE

[R4SBAX](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

## **APPENDIX B**

### **REGIONAL SPECIAL-STATUS PLANT AND WILDLIFE SPECIES AND SENSITIVE NATURAL COMMUNITIES**

**TABLE A.**  
**REGIONAL SPECIAL-STATUS PLANT SPECIES AND SENSITIVE NATURAL**  
**COMMUNITIES<sup>1</sup>**

Common Name  <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
<b>Plants</b>				
San Gabriel manzanita  <i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	Federal: None State: None CRPR: 1B.2	Found in rocky chaparral habitat. Occurs between 1,955 and 4,925 feet (595 to 1500 meters). Blooms March.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
marsh sandwort  <i>Arenaria paludicola</i>	Federal: FE State: SE CRPR: 1B.1	Found in sandy openings in freshwater or brackish marsh and swamp habitats. Occurs between 10 and 560 feet (0 to 170 meters). Blooms May to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Braunton's milk- vetch  <i>Astragalus brauntonii</i>	Federal: FE State: None CRPR: 1B.1	Found in recently burned or disturbed areas in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 10 and 2,100 feet (0 to 640 meters). Blooms January to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Ventura Marsh milk- vetch  <i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Federal: FE State: SE CRPR: 1B.1	Found in coastal dune, coastal scrub, and coastal salt or brackish marsh and swamp habitats. Occurs between 0 and 115 feet (0 to 35 meters). Blooms (June) August to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
coastal dunes milk-vetch  <i>Astragalus tener</i> var. <i>titi</i>	Federal: FE State: SE CRPR: 1B.1	Found in vernal mesic areas in coastal bluff scrub, coastal dune, and coastal prairie habitats. Occurs between 0 and 165 feet (0 to 50 meters). Blooms March to May.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
western spleenwort  <i>Asplenium vespertinum</i>	Federal: None State: None CRPR: 4.2	Found in rocky habitats, including chaparral, cismontane woodland, and coastal scrub. Occurs between 590 and 3,280 feet (180 to 1,000 meters). Blooms February to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Coulter's saltbush  <i>Atriplex coulteri</i>	Federal: None State: None CRPR: 1B.2	Found in alkaline or clay soils in coastal bluff scrub, coastal dune, coastal scrub, and valley and foothill grassland habitats. Occurs between 5 and 1,510 feet (0 to 460 meters). Blooms March to May.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
south coast saltscale  <i>Atriplex pacifica</i>	Federal: None State: None CRPR: 1B.2	Found in coastal bluff scrub, coastal dune, coastal scrub, and playa habitats. Occurs between 0 and 460 feet (0 to 140 meters). Blooms March to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Parish's brittlescale  <i>Atriplex parishii</i>	Federal: None State: None CRPR: 1B.1	Found in alkaline habitats, including chenopod scrub, playas, and vernal pools. Occurs between 80 and 6,230 feet (25 to 1,900 meters). Blooms June to October.	Absent	<b>Not Expected.</b> <b>Although an</b> undated CNDDDB record of this species coincides with the BSA, potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Davidson's saltscale <i>Atriplex serenana</i> var. <i>davidsonii</i>	Federal: None State: None CRPR: 1B.2	Found in alkaline habitats, including coastal scrub and coastal bluff scrub. Occurs between 30 and 650 feet (10 to 200 meters). Blooms April to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Nevin's barberry <i>Berberis nevinii</i>	Federal: FE State: SE CRPR: 1B.1	Found in sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub habitats. Occurs between 230 and 2,710 feet (70 to 825 meters). Blooms (February) March to June.	Absent	<b>Although an</b> undated CNDDB record of this species coincides with the BSA, potentially suitable habitat for this species is absent from the BSA.
Catalina mariposa-lily <i>Calochortus catalinae</i>	Federal: None State: None CRPR: 4.2	Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Occurs between 50 and 2,300 feet (15 to 700 meters). Blooms February to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
slender mariposa-lily <i>Calochortus clavatus</i> var. <i>gracilis</i>	Federal: None State: None CRPR: 1B.2	Found in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 1,045 and 3,285 feet (320 to 1,000 meters). Blooms March to June (November).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
Palmer's mariposa-lily <i>Calochortus palmeri</i> var. <i>palmeri</i>	Federal: None State: None CRPR: 1B.2	Found in mesic areas in chaparral, lower montane coniferous forest, and meadows and seeps. Occurs between 2,330 and 7,845 feet (710 to 2,390 meters). Blooms April to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.



Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Plummer's mariposa-lily  <i>Calochortus plummerae</i>	Federal: None State: None CRPR: 4.2	Granitic or rocky habitats. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Occurs between 330 and 5,580 feet (100 to 1,700 meters). Blooms May to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
lucky morning-glory  <i>Calystegia felix</i>	Federal: None State: None CRPR: 1B.1	Usually found in wetland and marsh habitats, occasionally in drier habitats, including meadows and seeps and riparian scrub. May inhabit areas with silty loam and alkaline soils. Occurs between 100 and 700 feet (30 to 215 meters). Blooms March to September.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Peirson's morning-glory  <i>Calystegia peirsonii</i>	Federal: None State: None CRPR: 4.2	Found in chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitats. Occurs between 95 and 4,925 feet (30 to 1,500 meters). Blooms April to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Lewis' evening-primrose  <i>Camissoniopsis lewisii</i>	Federal: None State: None CRPR: 3	Inhabits sandy or clay soils in coastal bluff-scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Occurs between 0 and 985 feet (0 to 300 meters). Blooms March to May (June).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
white pygmy-poppy  <i>Canbya candida</i>	Federal: None State: None CRPR: 4.2	Found in gravelly, sandy, and granitic soils in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. Occurs between 1,965 and 4,790 feet (600 to 1,460 meters). Blooms March to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
Mt. Gleason paintbrush  <i>Castilleja gleasoni</i>	Federal: None State: Rare CRPR: 1B.2	Prefers granitic areas in chaparral, lower montane coniferous forest, and pinyon and juniper woodland habitats. Occurs between 2,180 and 7,120 feet (665 to 2,170 meters). Blooms May to June (September).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
southern tarplant  <i>Centromadia parryi</i> <i>ssp. australis</i>	Federal: None State: None CRPR: 1B.1	Found in vernal pools, vernal mesic valley and foothill grasslands, and around margins of marshes and swamps. Occurs between 0 and 1,575 feet (0 to 480 meters). Blooms May to November.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	Federal: None State: None CRPR: 1B.1	Prefers alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland habitats. Occurs between 0 and 2,100 feet (0 to 640 meters). Blooms April to September.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	Federal: FE State: SE Other: 1B.2	Found in coastal dunes and coastal salt marshes and swamps. Occurs between 0 and 100 feet (0 to 30 meters). Blooms May to October (November).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>fernandina</i>	Federal: None State: SE CRPR: 1B.1	Preferred habitat includes sandy coastal scrub, valley and foothill grasslands. Occurs between 495 and 4,000 feet (150 to 1,220 meters). Blooms April to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	Federal: None State: None CRPR: 1B.1	Found in sandy or rocky soils in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Occurs between 900 and 4,005 feet (275 to 1,220 meters). Blooms April to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
monkey-flower savory  <i>Clinopodium mimuloides</i>	Federal: None State: None CRPR: 4.2	Found in streambanks and mesic areas in chaparral and North Coast coniferous forest habitats. Occurs between 1,000 and 5,905 feet (305 to 1,800 meters). Blooms June to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
small-flowered morning-glory  <i>Convolvulus simulans</i>	Federal: None State: None CRPR: 4.2	Found in clay, serpentine seeps in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 100 and 2,430 feet (30 to 740 meters). Blooms March to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Johnston's monkeyflower  <i>Diplacus johnstonii</i>	Federal: None State: None CRPR: 4.3	Found in scree, disturbed areas, rocky or gravelly soils, or roadside in lower montane coniferous forest habitat. Occurs between 3,195 and 9,680 feet (975 to 2,920 meters). Blooms (April) May to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
beach spectaclepod  <i>Dithyrea maritima</i>	Federal: None State: ST Other: 1B.1	Found in coastal dune and sandy coastal scrub habitats. Occurs between 5 and 165 feet (0 to 50 meters). Blooms March to May.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
slender-horned spineflower  <i>Dodecahema leptoceras</i>	Federal: FE State: SE Other: 1B.1	Prefers sandy soils in chaparral, cismontane woodland, and coastal scrub habitats. Occurs between 655 and 2,495 feet (200 to 760 meters). Blooms April to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
many-stemmed dudleya  <i>Dudleya multicaulis</i>	Federal: None State: None CRPR: 1B.2	Found in chaparral, coastal scrub, and valley and foothill grassland habitats. Often in clay soils. Occurs between 50 and 2,520 feet (15 to 790 meters). Blooms April to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Johnston's bedstraw  <i>Galium johnstonii</i>	Federal: None State: None CRPR: 4.3	Found in chaparral, lower montane coniferous forest, pinyon and juniper woodland, and riparian woodland habitats. Occurs between 4,000 and 7,545 feet (1,220 to 2,300 meters). Blooms June to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
Palmer's grapplinghook  <i>Harpagonella palmeri</i>	Federal: None State: None CRPR: 4.2	Prefers clay soils in chaparral, coastal scrub, and valley and foothill grassland habitats. Often in open, grassy areas within shrubland. Occurs between 65 and 3,135 feet (20 to 955 meters). Blooms March to May.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Los Angeles sunflower  <i>Helianthus nuttallii</i> <i>ssp. parishii</i>	Federal: None State: None Other: 1A	Found in coastal salt and freshwater marshes and swamps. Occurs between 30 and 5,005 feet (10 to 1,525 meters). Blooms August to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
urn-flowered alumroot  <i>Heuchera</i> <i>caespitosa</i>	Federal: None State: None CRPR: 4.3	Prefers rocky areas in cismontane woodland, lower montane coniferous forest, montane riparian forest, and upper montane coniferous forest habitats. Occurs between 3,785 and 8,695 feet (1,155 to 2,650 meters). Blooms May to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
vernal barley  <i>Hordeum</i> <i>intercedens</i>	Federal: None State: None CRPR: 3.2	Found in coastal dunes, coastal scrub, vernal pools, and in saline flats and depressions in valley and foothill grassland habitats. Occurs between 15 and 3,280 feet (5 to 1,000 meters). Blooms March to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
mesa horkelia  <i>Horkelia cuneata</i> <i>var. puberula</i>	Federal: None State: None CRPR: 1B.1	Prefers sandy or gravelly sites in chaparral, cismontane woodland, and coastal scrub habitats. Occurs between 230 to 2,660 feet (70 to 810 meters). Blooms February to September.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA. A record of this species from 1918 occurs approximately 1.25 mile from the BSA; however, this species is expected extirpated.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
San Gabriel Mountains sunflower <i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	Federal: None State: None CRPR: 4.3	Prefers rocky areas in lower and upper montane coniferous forest habitats. Occurs between 4,920 and 8,205 feet (1,500 to 2,500 meters). Blooms May to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
California satintail <i>Imperata brevifolia</i>	Federal: None State: None CRPR: 2B.1	Prefers mesic areas in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and riparian scrub. Occurs between 0 and 3,990 feet (0 to 1,215 meters). Blooms September to May.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Southern California black walnut <i>Juglans californica</i>	Federal: None State: None CRPR: 4.2	Found in alluvial sites in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Occurs between 160 and 2,955 feet (50 to 900 meters). Blooms March to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Federal: None State: None CRPR: 1B.1	Found in coastal salt marshes and swamps, playas, and vernal pools. Occurs between 0 and 4,000 feet (0 to 1,220 meters). Blooms February to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
fragrant pitcher sage <i>Lepechinia fragrans</i>	Federal: None State: None CRPR: 4.2	Found in chaparral habitats. Occurs between 65 and 4,300 feet (20 to 1,310 meters). Blooms March to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CRPR: 4.3	Chaparral or coastal scrub habitats. Occurs between 5 to 2,905 feet (1 to 885 meters). Blooms January to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
ocellated Humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	Federal: None State: None CRPR: 4.2	Prefers openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats. Occurs between 95 and 5,905 feet (30 to 1,800 meters). Blooms March to July (August).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
San Gabriel linanthus <i>Linanthus concinnus</i>	Federal: None State: None CRPR: 1B.2	Prefers rocky areas and openings in chaparral, lower montane coniferous forest, and upper montane coniferous forest habitats. Occurs between 4,985 and 9,190 feet (1,520 to 2,800 meters). Blooms April to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
Davidson's bush-mallow <i>Malacothamnus davidsonii</i>	Federal: None State: None CRPR: 1B.2	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Occurs between 600 and 3,740 (185 to 1,140 meters). Blooms June to January.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.



Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
California muhly <i>Muhlenbergia californica</i>	Federal: None State: None CRPR: 4.3	Prefers mesic areas, seeps, and streambanks in chaparral, coastal scrub, lower montane coniferous forest, and meadows and seeps. Occurs between 325 and 6,565 feet (100 to 2,000 meters). Blooms June to September.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
mud nama <i>Nama stenocarpa</i>	Federal: None State: None CRPR: 2B.2	Found in marshes, swamps, lake margins, and riverbanks. Occurs between 15 and 1,645 feet (5 to 500 meters). Blooms January to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Gambel's water cress <i>Nasturtium gambellii</i>	Federal: FE State: ST CRPR: 1B.1	Found in freshwater or brackish marshes and swamps. Occurs between 15 and 1,085 feet (5 to 330 meters). Blooms April to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
prostrate vernal pool navarretia <i>Navarretia prostrata</i>	Federal: None State: None CRPR: 1B.2	Found in mesic habitats, including coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Occurs between 5 and 3,970 feet (0 to 1,210 meters). Blooms April to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
California Orcutt grass <i>Orcuttia californica</i>	Federal: FE State: FE CRPR: 1B.1	Found in vernal pools. Occurs between 145 and 7,105 feet (45 to 2,165 meters). Blooms April to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Hubby's phacelia <i>Phacelia hubbyi</i>	Federal: None State: None CRPR: 4.2	Prefers gravelly, rocky, or talus sites in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 0 and 3280 feet (0 to 1,000 meters). Blooms April to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
woolly chaparral-pea <i>Pickeringia montana</i> var. <i>tomentosa</i>	Federal: None State: None CRPR: 4.3	Prefers gabbroic, granitic, and clay soils in chaparral habitats. Occurs between 0 and 5,580 feet (0 to 1,700 meters). Blooms May to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
white rabbit-tobacco <i>Pseudognaphalium leucocephalum</i>	Federal: None State: None CRPR: 2B.2	Prefers sandy, gravelly areas in chaparral, cismontane woodland, coastal scrub, or riparian woodland habitats. Occurs between 0 to 6,890 feet (0 to 2,100 meters). Blooms (July) August to November (December).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Nuttall's scrub oak <i>Quercus dumosa</i>	Federal: None State: None Other: 1B.1	Prefers sandy or clay loam soils in closed-cone coniferous forest, chaparral, and coastal scrub habitats. Occurs between 45 and 1,315 feet (15 to 400 meters). Blooms February to April (May to August).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
San Gabriel oak <i>Quercus durata</i> var. <i>gabrielensis</i>	Federal: None State: None CRPR: 4.2	Found in chaparral and cismontane woodland habitats. Occurs between 1,475 and 3,280 feet (450 to 1,000 meters). Blooms April to May.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
Engelmann oak <i>Quercus engelmannii</i>	Federal: None State: None CRPR: 4.2	Found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland habitats. Occurs between 160 and 4,265 feet (50 to 1,300 meters). Blooms March to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Parish's gooseberry <i>Ribes divaricatum</i> var. <i>parishii</i>	Federal: None State: None CRPR: 1A	Inhabits riparian woodland habitats. Occurs between 210 and 985 feet (65 to 300 meters). Blooms February to April.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Coulter's matilija poppy <i>Romneya coulteri</i>	Federal: None State: None CRPR: 4.2	Often found in burns in chaparral or coastal scrub habitats. Occurs between 65 to 3,940 feet (20 to 1,200 meters). Blooms March to July (August).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
Parish's rupertia <i>Rupertia rigida</i>	Federal: None State: None CRPR: 4.3	Found in chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, pebble plain, and valley and foothill grassland habitats. Occurs between 2,295 and 8,205 feet (700 to 2,500 meters). Blooms June to August.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
San Gabriel ragwort <i>Senecio astephanus</i>	Federal: None State: None CRPR: 4.3	Prefers rocky slopes in coastal bluff scrub and chaparral habitats. Occurs between 1,310 and 4,925 feet (400 to 1,500 meters). Blooms May to July.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
salt spring checkerbloom <i>Sidalcea neomexicana</i>	Federal: None State: None CRPR: 2B.2	Prefers alkaline or mesic areas in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playa habitats. Occurs between 45 and 5,020 feet (15 to 1,530 meters). Blooms March to June.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
western bristly scaleseed <i>Spermolepis lateriflora</i>	Federal: None State: None CRPR: 2A	Prefers rocky or sandy soils in Sonoran Desert scrub habitat. Occurs between 1,195 and 2,200 feet (365 to 670 meters). Blooms March to April.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent in BSA	Potential for Occurrence Rationale <sup>5</sup>
San Bernardino aster <i>Symphyotrichum defoliatum</i>	Federal: None State: None CRPR: 1B.2	Found near ditches, streams, and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernally mesic valley and foothill grassland habitats. Occurs between 5 and 6,700 feet (0 to 2,040 meters). Blooms July to November (December).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Greata's aster <i>Symphyotrichum greatae</i>	Federal: None State: None CRPR: 1B.3	Prefers mesic areas in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland habitats. Occurs between 980 and 6,595 feet (300 to 2,010 meters). Blooms June to October.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA and the Project falls outside the elevation range known for this species.
Sonoran maiden fern <i>Thelypteris puberula</i> var. <i>sonorensis</i>	Federal: None State: None CRPR: 2B.2	Inhabits meadows and seeps. Occurs between 160 and 2,000 feet (50 to 610 meters). Blooms January to September.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

<b>Common Name</b> <i>Scientific Name</i> <sup>2</sup>	<b>Status</b> <sup>3</sup>	<b>General Habitat Description</b> <sup>4</sup>	<b>Habitat Present/ Absent in BSA</b>	<b>Potential for Occurrence Rationale</b> <sup>5</sup>
<b>Sensitive Natural Communities</b>				
California Walnut Woodland				<b>Not Present</b>
Riversidian Alluvial Fan Sage Scrub				<b>Not Present</b>
Southern California Arroyo Chub/Santa Ana Sucker Stream				<b>Not Present</b>
Southern Coast Live Oak Riparian Forest				<b>Not Present</b>
Southern Cottonwood Willow Riparian Forest				<b>Not Present</b>
Southern Mixed Riparian Forest				<b>Not Present</b>
Southern Sycamore Alder Riparian Woodland				<b>Not Present</b>
Walnut Forest				<b>Not Present</b>

<sup>1</sup> Special-Status species known from the CNDDDB and CNPS to occur on the San Fernando, Sunland, Condor Peak, Van Nuys, Burbank, Pasadena, Beverly Hills, Hollywood, and Los Angeles quadrangles, and identified during a query of IPaC for the project vicinity.

<sup>2</sup> Nomenclature for special-status plant species conforms to CNPS.

<sup>3</sup> Sensitivity Status Codes

- Federal     **FT** - Federally Threatened under the Federal Endangered Species Act  
**FE** - Federally Endangered under the Federal Endangered Species Act
- State        **ST** - State Threatened under the California Endangered Species Act  
**SE** - State Endangered under the California Endangered Species Act
- CRPR        California Native Plant Society's California Rare Plant Rank (CRPR)  
**1A:** Plants presumed extinct in California  
**1B:** Plants rare, threatened, or endangered in California and elsewhere  
**2:** Plants rare, threatened, or endangered in California, but more common elsewhere  
**3:** Plants more information is needed for  
**4:** Plants of limited distribution – a watch list  
      **0.1:** Seriously threatened in California  
      **0.2:** Fairly endangered in California  
      **0.3:** Not very endangered in California

<sup>4</sup> General Habitat Descriptions from CNPS (2020).

<sup>5</sup> Historical records from CDFW (2020).

**TABLE B.**  
**REGIONAL SPECIAL-STATUS WILDLIFE SPECIES<sup>1</sup>**

<b>Common Name Scientific Name<sup>2</sup></b>	<b>Status<sup>3</sup></b>	<b>General Habitat Description<sup>4</sup></b>	<b>Habitat Present/ Absent</b>	<b>Potential for Occurrence Rationale<sup>5</sup></b>
<b>Invertebrates</b>				
Crotch bumble bee <i>Bombus crotchii</i>	Federal: None State: CE Other: None	Inhabit open grassland and scrub habitats. Utilize a wide variety of flowering plants.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Busck's gallmoth <i>Carolella busckana</i>	Federal: None State: None Other: CNDDDB	Inhabits sand dunes habitats. Requires California brittlebush ( <i>Encelia californica</i> ) as larval food source.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
sandy beach tiger beetle <i>Cicindela hirticollis grvida</i>	Federal: None State: None Other: CNDDDB	Burrow in moist sand in coastal habitats, including sand dunes and beaches.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
globose dune beetle <i>Coelus globosus</i>	Federal: None State: None Other: CNDDDB	Found in coastal dune habitats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
monarch – California overwintering population <i>Danaus plexippus pop. 1</i>	Federal: None State: None Other: CNDDDB	Roost in eucalyptus ( <i>Eucalyptus</i> sp.), Monterey cypress ( <i>Hesperocyparis macrocarpa</i> ), and Monterey pines ( <i>Pinus radiata</i> ).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Gertsch's socalchemmis spider <i>Socalchemmis gertschi</i>	Federal: None State: None Other: CNDDDB	Occurs in coastal sage scrub habitat	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent	Potential for Occurrence Rationale <sup>5</sup>
<b>Fish</b>				
Santa Ana sucker  <i>Catostomus santaanae</i>	Federal: FT  State: None  Other: None	Inhabits permanent streams and rivers, with depths from a few centimeters to over a meter. Water must be cool with variable flows. Substrates of gravel, rubble and boulders are preferred for foraging and required for breeding.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
arroyo chub  <i>Gila orcuttii</i>	Federal: None  State: None  Other: SSC	Habitat includes headwaters, creeks, and small to medium rivers, often intermittent streams; permanent, small to moderate-sized, moderate to high gradient streams with more than 50% of the habitat as runs and pools < 10 cm deep and reaches of permanent water more than 2 km long; requires some flow.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Santa Ana speckled dace  <i>Rhinichthys osculus</i> ssp. 3	Federal: None  State: None  Other: SSC	Inhabit a variety of habitats, including perennial streams, riffles dominated by gravel and cobble, and pools in low-gradient streams. Mainly found in areas that maintain summer water temperatures below 68 °F (20 °C).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.



Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent	Potential for Occurrence Rationale <sup>5</sup>
<b>Amphibians</b>				
arroyo toad  <i>Anaxyrus californicus</i>	Federal: FE State: None Other: SSC	Inhabits valley-foothill, desert riparian, desert wash, palm oasis, Joshua tree, mixed chaparral, and sagebrush habitats. Often found near washes or intermittent streams.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
western spadefoot  <i>Spea hammondi</i>	Federal: None State: None Other: SSC	Inhabits grassland, oak woodland, coastal sage scrub, and chaparral vegetation in washes, floodplains, alluvial fans, playas, and alkali flats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
southern mountain yellow-legged frog  <i>Rana mucosa</i>	Federal: FE State: SE Other: WL	Inhabits ponds, lakes, and streams at moderate to high elevations.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Coast Range newt  <i>Taricha torosa</i>	Federal: None State: None Other: SSC	Inhabits valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, and mixed conifer habitats. Occurs between 0 and 6,000 feet (0 to 1,830 meters).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
<b>Reptiles</b>				
California legless lizard  <i>Anniella spp.</i>	Federal: None State: None Other: SSC	Occurs in moist warm loose soils in sparsely vegetated areas of coastal dune, valley-foothill, chaparral, and coastal scrub habitats. Often under leaf litter or other surface objects.	Absent	<b>Not Expected.</b> Although two CNDDDB records of this species from 2009 and 2011 occur approximately 1 mile south-southwest of the BSA, potentially suitable habitat for this species is absent from the BSA, due to past and current development.

<b>Common Name Scientific Name<sup>2</sup></b>	<b>Status<sup>3</sup></b>	<b>General Habitat Description<sup>4</sup></b>	<b>Habitat Present/ Absent</b>	<b>Potential for Occurrence Rationale<sup>5</sup></b>
southern California legless lizard  <i>Anniella stebbinsi</i>	Federal: None State: None Other: SSC	Occurs in moist warm loose soils in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Often under leaf litter or other surface objects.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
California glossy snake  <i>Arizona elegans occidentalis</i>	Federal: None State: None Other: SSC	Most common in desert habitats but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
coastal whiptail  <i>Aspidoscelis tigris stejnegeri</i>	Federal: None State: None Other: SSC	Occurs in coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
San Bernardino ringneck snake  <i>Diadophis punctatus modestus</i>	Federal: None State: None Other: CNDDDB	Found in open, rocky areas in valley-foothill, mixed chaparral, and annual grassland habitats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
western pond turtle  <i>Emys marmorata</i>	Federal: None State: None Other: SSC	Occurs in aquatic water bodies including flowing rivers and streams, permanent lakes, ponds, reservoirs, settling ponds, marshes and other wetlands. Semi-permanent water bodies such as stock ponds, vernal pools and seasonal wetlands can also be utilized on a temporary basis.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent	Potential for Occurrence Rationale <sup>5</sup>
coast horned lizard  <i>Phrynosoma blainvillii</i>	Federal: None  State: None  Other: SSC	Inhabits coastal sage scrub and chaparral in arid and semiarid climates. Prefers friable, rocky, or shallow sandy soils.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
two-striped gartersnake  <i>Thamnophis hammondi</i>	Federal: None  State: None  Other: SSC	Inhabits perennial and intermittent streams, often with rocky streambeds bordered by willow thickets or dense vegetation. Occurs in a variety of habitats between 0 and 8,000 feet (0 to 2,400 meters).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
<b>Birds</b>				
southern California rufous-crowned sparrow  <i>Aimophila ruficeps canescens</i>	Federal: None  State: None  Other: WL	Inhabits broken sage scrub and scrub-grassland habitats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
burrowing owl  <i>Athene cunicularia</i>	Federal: None  State: None  Other: SSC	Occurs in expansive, nearly flat open areas, such as prairies, grasslands, agricultural fields, vacant lots. Small mammal burrows are required for roosting/nesting.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Swainson's hawk  <i>Buteo swainsoni</i>	Federal: None  State: Threatened	Nests in stands with few trees in juniper-sage flats and riparian areas. Utilizes adjacent grasslands, grain or alfalfa fields, or livestock pastures for foraging.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

<b>Common Name Scientific Name<sup>2</sup></b>	<b>Status<sup>3</sup></b>	<b>General Habitat Description<sup>4</sup></b>	<b>Habitat Present/ Absent</b>	<b>Potential for Occurrence Rationale<sup>5</sup></b>
western yellow-billed cuckoo  <i>Coccyzus americanus occidentalis</i>	Federal: FT State: SE	Occurs in valley foothill and desert riparian habitats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
yellow rail  <i>Coturnicops noveboracensis</i>	Federal: None State: None Other: SSC	Inhabits sedge marshes and meadows with moist soil or shallow standing water.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
southwestern willow flycatcher  <i>Empidonax traillii extimus</i>	Federal: FE State: SE	Inhabits riparian woodlands in southern California. Nests in extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters, between 2,000 and 8,000 feet (610 to 2,440 meters). Dense willow thickets are required for nesting and roosting. Low, exposed branches are used for singing posts/hunting perches.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
American peregrine falcon  <i>Falco peregrinus anatum</i>	Federal: Delisted State: Delisted Other: FP	Occurs along coast and western Sierra Nevada in spring and fall. Utilize woodland, forest, and coastal habitats for breeding. Also known in urbanized areas of Los Angeles County	Absent	<b>Low.</b> Although habitat for this species is absent from the BSA, this species forages over extensive areas, including urbanized areas and as a result has slight potential to cross the BSA as a migrating transient.
California condor  <i>Gymnogyps californianus</i>	Federal: FE State: SE Other: FP	Aerial, cliff, grassland/herbaceous, savanna, shrubland/chaparral, conifer woodland, hardwood woodland,	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent	Potential for Occurrence Rationale <sup>5</sup>
		mixed woodlands, standing snag/hollow tree. Usual habitat is mountainous country at low and moderate elevations, especially rocky and brushy areas with cliffs available for nest sites, with foraging habitat encompassing grasslands, oak savannas, mountain plateaus, ridges, and canyons. Condors often roost in snags or tall open-branched trees near important foraging grounds		
coastal California gnatcatcher  <i>Poliophtila californica californica</i>	Federal: FT State: None Other: SSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet (760 meters) in southern California. Inhabits low, coastal sage scrub in arid washes, on mesas and slopes.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
bank swallow  <i>Riparia riparia</i>	Federal: None State: FT	Found in riparian and other lowland habitats during spring and fall. Occupy riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils during summer, where they dig nesting holes.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

Common Name <i>Scientific Name</i> <sup>2</sup>	Status <sup>3</sup>	General Habitat Description <sup>4</sup>	Habitat Present/ Absent	Potential for Occurrence Rationale <sup>5</sup>
yellow warbler  <i>Setophaga petechia</i>	Federal: None  State: None  Other: SSC	Occupy riparian vegetation in close proximity to water along streams and in wet meadows. Associated with willow and cottonwoods.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
least Bell's vireo  <i>Vireo bellii pusillus</i>	Federal: FE  State: SE	Occupy willow and cottonwood riparian woodland, usually associated with water or adjacent to a water source.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA. One CNDDDB record of this species from 1922 occurs along the Los Angeles River in vicinity of the BSA.
<b>Mammals</b>				
pallid bat  <i>Antrozous pallidus</i>	Federal: None  State: None  Other: SSC, WBWG-H	Roosts by day in rock crevices, buildings, mines, and hollow trees. At night, may roost under bridges and/or porches.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Townsend's big- eared bat  <i>Corynorhinus townsendii</i>	Federal: None  State: None  Other: SSC	Prefers areas with caves and cave-like roosting habitat. Can be found in a variety of habitats between 0 and 10,830 feet (0 to 3,300 meters).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
western mastiff bat  <i>Eumops perotis californicus</i>	Federal: None  State: None  Other: SSC, WBWG-H	Roosts in rock crevices, on cliff faces and also uses crevices in buildings and structures. Limited to roosts that allow at least 10 feet of free fall.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

<b>Common Name</b> <b>Scientific Name<sup>2</sup></b>	<b>Status<sup>3</sup></b>	<b>General Habitat</b> <b>Description<sup>4</sup></b>	<b>Habitat</b> <b>Present/ Absent</b>	<b>Potential for</b> <b>Occurrence</b> <b>Rationale<sup>5</sup></b>
silver-haired bat  <i>Lasionycteris noctivagans</i>	Federal: None  State: None  Other: WBWG-M	Occurs in coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
hoary bat  <i>Lasiurus cinereus</i>	Federal: None  State: None  Other: WBWG-M	Occurs from sea level to 13,200 feet (4,125 meters). Males generally inhabit foothills, deserts, and mountains, while females inhabit lowlands and coastal valleys. Roosts in dense foliage of medium-large trees, preferring sites hidden from above with few branches below.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
western yellow bat  <i>Lasiurus xanthinus</i>	Federal: None  State: None  Other: SSC, WBWG-H	Occurs below 2,000 feet (600 meters) in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees and palms.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
San Diego black-tailed jackrabbit  <i>Lepus californicus bennettii</i>	Federal: None  State: None  Other: SSC	Occurs in lower elevation herbaceous and desert-shrub areas and open, early-successional stages of forest and chaparral habitats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

<b>Common Name Scientific Name<sup>2</sup></b>	<b>Status<sup>3</sup></b>	<b>General Habitat Description<sup>4</sup></b>	<b>Habitat Present/ Absent</b>	<b>Potential for Occurrence Rationale<sup>5</sup></b>
south coast marsh vole  <i>Microtus californicus stephensi</i>	Federal: None  State: None  Other: SSC	Occurs in wetland habitats and associated grasslands along the coast.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
San Diego desert woodrat  <i>Neotoma lepida intermedia</i>	Federal: None  State: None  Other: SSC	Inhabits Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Prefers rocky areas with Joshua trees. Occurs between 0 and 8,500 feet (0 to 2,600 meters).	Absent	<b>Not Expected. Although two CNDDB records of this species from 2006 occur approximately 1 mile south-southwest of the BSA, potentially suitable habitat for this species is absent from the BSA due to past and current development.</b>
big free-tailed bat  <i>Nyctinomops macrotis</i>	Federal: None  State: None  Other: SSC, WBWG-MH	Often found in urban areas. Roost in buildings, caves, hollow trees, high cliffs, and rocky outcrops.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
southern grasshopper mouse  <i>Onychomys torridus ramona</i>	Federal: None  State: None  Other: SSC	Prefers alkali desert scrub and other desert scrub habitats. Also occurs in succulent shrub, wash, riparian, coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.
Los Angeles pocket mouse  <i>Perognathus longimembris brevinasus</i>	Federal: None  State: None  Other: SSC	Inhabits desert riparian, desert scrub, desert wash, coastal scrub, and sagebrush habitats. Occurs between 0 and 5,600 feet (0 to 1,700 meters).	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.



<b>Common Name Scientific Name<sup>2</sup></b>	<b>Status<sup>3</sup></b>	<b>General Habitat Description<sup>4</sup></b>	<b>Habitat Present/ Absent</b>	<b>Potential for Occurrence Rationale<sup>5</sup></b>
American badger <i>Taxidea taxus</i>	Federal: None State: None Other: SSC	Occurs in dry, open stages of shrub, forest, and herbaceous habitats. Prefers areas with fine-textured or sandy soils for digging burrows.	Absent	<b>Not Expected.</b> Potentially suitable habitat for this species is absent from the BSA.

<sup>1</sup> Special-Status species known from the CNDDDB and CNPS to occur on the San Fernando, Sunland, Condor Peak, Van Nuys, Burbank, Pasadena, Beverly Hills, Hollywood, and Los Angeles quadrangles, and identified during a query of IPaC for the project vicinity.

<sup>2</sup> Nomenclature for special-status wildlife conforms to CNDDDB.

<sup>3</sup> Sensitivity Status Codes

Federal     **FT** - Federally Threatened under Federal Endangered Species Act (FESA)  
                   **FE** - Federally Endangered under FESA  
                   **FC** – A Federal Candidate for listing under FESA  
State        **SE** - State Endangered under California Endangered Species Act (CESA)  
Other        **FP** – Designated Fully Protected by CDFW  
                   **SSC** – Designated Species of Special Concern by CDFW  
                   **WL** – Designated as a Watch List species by CDFW  
**CNDDDB** - Tracked by CDFW in the California Natural Diversity Data Base or considered locally sensitive  
**WBWG-H** - Designated by the Western Bat Working Group (WBWG 2015) as High Priority - species that are imperiled or are at high risk of imperilment  
**WBWG-M** - Designated by the WBWG (2017) as Medium Priority – a level of concern that should warrant closer evaluation, more research, and conservation actions of both species and possible threats.

<sup>4</sup> General Habitat Descriptions from CDFW (2020).

<sup>5</sup> Historical records from CDFW (2020a).

## **APPENDIX C**

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### **Cultural Resources Technical Memorandum**



## Memorandum

To Nadia Parker, City of Los Angeles Department of  
Water and Power Page 1 of 8

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Subject Lower Reach River Supply Conduit Project EIR Addendum  
Cultural Resources: Current Conditions and CEQA-Plus Evaluation

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From Marc A. Beherec, Ph.D., RPA

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Date June 30, 2020

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### Attachments:

- 1 Project Map
- 2 P-19-004172 (Headworks Spreading Grounds) DPR Forms

Los Angeles Department of Water and Power (LADWP) proposes to install a new flow control station at the Headworks Reservoir property in Griffith Park. The Headworks flow control station (also referred to as a pressure regulator station) was originally addressed in accordance with the California Environmental Quality Act (CEQA) in the Environmental Impact Report (EIR) for the LADWP Lower Reach River Supply Conduit (RSC) Project. The Final EIR for the Lower Reach RSC Project was certified by the Board of Water and Power Commissioners on February 21, 2006, and the CEQA Notice of Determination (NOD) for the project was filed on February 22, 2006.

The Lower Reach RSC Project replaces an existing potable water trunk line that was installed in the 1940s. The new water line will increase system reliability, transmission capacity, and resiliency as well as allow for higher operating pressure to meet California Department of Health Services drinking water regulations. The Lower Reach RSC covers a length of approximately 7 miles, beginning north of Griffith Park and ending at Silver Lake Reservoir in the City of Los Angeles. For construction purposes, the Lower Reach was divided into five separate units: 1A, 1B, 2, 3, and 4.

The Headworks flow control station will be located within a segment of Unit 1A that will run parallel to Forest Lawn Drive and along the southern perimeter of the former Headworks Spreading Grounds. Headworks Spreading Grounds property is a 43-acre site owned by the City of Los Angeles located along the northwest edge of Griffith Park.

In 2004, Greenwood and Associated prepared a Cultural Resources Assessment Report in support of the Silver Lake Reservoir Complex Storage Replacement Project (SLRC SRP), which encompassed the area including and surrounding the proposed flow control station site (Greenwood and Associates 2004). That project included the entire Area of Potential Effects for the Headworks flow control station. AECOM subsequently prepared a Phase I Cultural Resources Investigation for the Headworks West Reservoir Project (Beherec and Griffith 2016). The project area of the Headworks West Reservoir Project included the Headworks flow control station location. AECOM's investigation documented the Headworks Spreading Grounds as a cultural resource. However, the study determined that the resource lacked the significance and integrity required for eligibility for inclusion in

the CRHR or NRHP, and therefore is not a historic property as defined by the National Historic Preservation Act or a historical resource under CEQA.

Minor changes have been made in the project description for the flow control station as it is described in the Lower Reach RSC Project EIR. As described in the EIR as part of the Lower Reach RSC pipeline construction, a flow control station would be built underground inside a vault, with approximate dimensions of 45 feet by 25 feet, within the former Headworks Spreading Grounds property. According to the Certified EIR, this station would consist of approximately five smaller pipe legs (two 24-inch and three 16-inch legs). However, the five smaller pipe legs will now consist of two 30-inch legs and three 20-inch legs. Each pipeline would have a control valve, which would be operated as necessary to maintain the pressure requirements downstream within the Lower Reach RSC pipeline.

The purpose and physical description of the flow control station remain essentially consistent with the Certified EIR assumptions.

The purpose of this memo is to document the current conditions of the project and assess potential impacts within the context of California laws and federal laws and regulations in compliance with the California Environmental Quality Act (CEQA) and the more rigorous standards of CEQA-Plus as defined by the State Water Resources Control Board. This project was found to have no historic properties within the Area of Potential Effects (APE). There will be no effect on historic properties.

### **Regulatory Context**

The project is subject both to the California Environmental Quality Act and, because federal funding will be received via the Clean Water State Revolving Fund, the standards of "CEQA-Plus." CEQA-Plus utilizes CEQA documentation plus the federal standards of the National Environmental Policy Act (NEPA). CEQA-Plus requires compliance with Section 106 of the National Historic Preservation Act (NHPA), 16 U.S. Code Section 470f and its implementing regulations 36 Code of Federal Regulations Part 800, and with the California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21000 *et seq.* and the State CEQA Guidelines, California Code of Regulations (CCR) Section 15000 *et seq.*

In accordance with NEPA, the NHPA, and CEQA, cultural resources are protected from adverse effect if they meet standards of significance. The NHPA (16 United States Code (USC) 470) and its implementing regulations (36 CFR 800) establish a program for the preservation of historic properties throughout the United States. Section 106 of the NHPA requires that federal projects or projects under federal jurisdiction consider the effect of an undertaking on properties eligible for or included in the National Register of Historic Places (NRHP). The CRHR was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the NRHP. The criteria are nearly identical to those of the NRHP but focus on resources of statewide, rather than national, significance.

#### ***NRHP***

NHPA establishes the NRHP, which is "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2). To be eligible for listing in the NRHP, a property must be at least 50 years old (or have reached 50

years old by the project completion date) and possess significance in American history and culture, architecture, or archaeology to meet one or more of four established criteria (36 CFR 60.4):

- A. Association with events that have made a significant contribution to the broad patterns of our history;
- B. Association with the lives of persons significant in our past;
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

Historic resources eligible for listing in the NRHP are considered “historic properties,” and may include buildings, sites, structures, objects and historic districts. A potential historic property less than 50 years of age may be eligible under NRHP Criteria Consideration G if it can be demonstrated that sufficient time has passed to understand its historic importance (National Parks Service 1995: 43). To be eligible for listing in the NRHP, a property must also have integrity, which is defined as “the ability of a property to convey its significance.” Within the concept of integrity, the NRHP recognizes seven aspects or qualities that, in various combinations, define integrity: feeling, association, workmanship, location, design, setting and materials (National Parks Service 1995: 44-45).

#### *CRHR*

The determination of CRHR significance of a cultural resource is guided by specific legal context outlined in Sections 15064.5 (b), 21083.2, and 21084.1 of the Public Resources Code (PRC), and the CEQA Guidelines (Code of California Regulations [CCR] Title 14, Section 15064.5). A cultural resource may be eligible for listing in the CRHR if it:

- 1. is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- 2. is associated with the lives of persons important in our past;
- 3. embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of an important creative individual or possesses high artistic values; or
- 4. has yielded, or may be likely to yield, information important in prehistory or history.

A cultural resource determined to meet one or more of the above criteria is considered a historical resource under CEQA. In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

#### **Archival Research**

Archival research for the project is documented in the Phase I study prepared for the Headworks West Reservoir Project, which includes the Area of Potential Effects for the flow control station (Beherec and Griffith 2016). A records search was conducted by Allison Hill on October 1, 2015, at the SCCIC. Previously conducted cultural resource investigations, as well as the characteristics of

known archaeological sites, were reviewed as part of this investigation in an attempt to create a model of historic and archaeological site sensitivity for the project site. A 0.5-mile radius around the project site was reviewed. The archival research involved review of archaeological site records, historic maps, and historic site and building inventories. Information on both the previously conducted investigations, as well as the known recorded cultural resource sites, was obtained from the SCCIC. In addition, the National Register of Historic Places (NRHP) database, listings for the California State Historic Resources Inventory, and the California Historical Landmarks Register were examined to determine whether any sites in this radius were listed on or had been determined eligible for these registers.

#### *Previous Cultural Resources Investigation Reports*

The records search revealed that a total of 10 cultural resource investigations were previously conducted within a 0.5-mile radius of the project area (see Table 1). These consist of two cultural resources Phase I type assessments, three cultural resources assessments, three negative archaeological survey reports, one archaeological survey summary, and one monitoring results report. Approximately 40 percent of the project's half-mile buffer area has been previously surveyed (LA-00845, LA-03978, LA-04460, LA-06752, LA-07266, LA-07840, and LA-08254).

In addition to the documents examined at the SCCIC, Greenwood and Associates surveyed 100 percent of the proposed APE (Greenwood and Associates 2004). That study found no historic resources within the project APE.

In addition, the entire project APE was examined for the Headworks West Reservoir Project. In the course of that cultural resources survey, the Headworks Spreading Grounds was documented as a cultural resource, and is described below.

#### *Previously Recorded Cultural Resources Sites*

Three cultural resources have been previously recorded within 0.5 mile of the project area (Table 2). These resources include the presumed locations of two adobe homes (CA-LAN-22H and CA-LAN-23H) and Griffith Park (P-19-175297; Los Angeles Cultural-Historical Monument [LAHCM] No. 942). Griffith Park has been found eligible for the NRHP. The only contributing constituent of Griffith Park located within 0.5 mile of the project area is Travel Town (prop-100880-0015).

**Table 1. Previous Surveys Conducted within 0.5 Mile of the Project Area**

<b>Author</b>	<b>Report # (LA-)</b>	<b>Description</b>	<b>Date</b>
Beroza, Barbara	00845	Prehistoric Cultural Resource Survey and Impact Assessment for a Portion of Griffith Park, Los Angeles, California	1980
Foster, John M..	06752	Mariposa Street Improvement Project, City of Burbank	2002
Grenda, Donn R	04460	Archaeological Monitoring at Forest Lawn – Hollywood Hills, Exaltation Development	1998

<b>Author</b>	<b>Report # (LA-)</b>	<b>Description</b>	<b>Date</b>
Lawson, Natalie and Roderic McLean	12498	Proposed Master Plan for the Forest Lawn Memorial – Park Hollywood Hills, City of Los Angeles, Los Angeles County, California	2009
Leonard, Nelson N.	03554	Griffith Park Survey – Department of Recreation and Parks, City of Los Angeles	1968
McKenna, Jeanette A.	07266	A Phase I Cultural Resources Investigation of a Proposed Alternative of Water and Power River Supply Conduit, Los Angeles County, California	2004
McKenna, Jeanette A.	08254	Results of a Phase I Cultural Resources Investigation of a Proposed Alternative of Water and Power River Supply Conduit, Los Angeles County, California	2004
McLean, Deborah	03978	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility LA 131-14, 6250 ½ Forest Lawn Drive, City and County of Los Angeles, California	1998
Sylvia, Barbara	07840	Negative Archaeological Survey Report – Route 134	2001
Underbrink, Susan	06747	Negative Archaeological Survey Report – Bechtel Telecommunication Site C573-134 Fwy/Buena Vista Geotrans Project L260-000, Burbank, Los Angeles County, California	2001

The records search indicated that three cultural resources have been previously recorded within 0.5 mile of the project area. These are two historic archaeological sites and one standing structure (Table 2). None of these occur within the project area.

In addition to the resources identified during the 2015 records search, one additional resource documented during the survey for the EIR is now documented at the SCCIC.

**Table 2. Previously Recorded Archaeological Sites within 0.5 Mile of the Project Area**

<b>Primary Number (P-19-)</b>	<b>Permanent Trinomial (CA-LAN-)</b>	<b>Description</b>	<b>Date Recorded</b>
150414	22H	Rancho Cahuenga Adobe House	06/1978
150415	23H	Adobe House Structure	06/1978
175297	None	Griffith Park (Travel Town); LAHCM No. 942	10/1994
004172	4172H	Headworks Spreading Grounds	10/2015



P-19-150414 (CA-LAN-22H)

This resource was identified as the Adobe Ranch House of Rancho Cahuenga. Formerly occupied by Jose Miguel Triunfo, the house was in ruins by September 1868. The property lies approximately 0.25-mile northeast of the project site.

P-19-150414 (CA-LAN-23H)

This is the site of a historic adobe house. Described as the "Old House of Lopez," it was occupied in September 1868. The approximate location of the site places it just to the east of the project site; however, the precise location is uncertain.

P-19-175297 (LAHCM No. 942)

Griffith Park is a historic district that has been determined eligible for the NRHP by a consensus determination. It is also Los Angeles Historic-Cultural Monument No. 942. The only significant constituent of Griffith Park located within 0.5 mile of the project area is Travel Town (prop-100880-0015). Travel Town is a transportation museum constructed in September 1952. The museum is located on the north side of Griffith Park, approximately 0.25 mile west of the project site.

P-19-004172 (CA-LAN-4172H)

The project area was formerly the location of the Headworks Infiltration Galleries, which were developed in 1905 to increase the supply of drinking water obtained from the Los Angeles River. It was one of several such gallery systems, others being located near the outlet of the Arroyo Seco and at Crystal Springs. The galleries were expanded at Headworks in 1916 and 1920. The facility was shut down in 1971 due to pollution concerns (Gumprecht 2001).

The Headworks Spreading Grounds formerly consisted of six spreading basins, ranging in size from 1 acre to more than 8 acres, and a channel from which water was diverted from the Los Angeles River. These had been largely destroyed by construction activities by the time of visit.

Eight historic features associated with the Headworks Spreading Grounds and apparently dating to the middle 20th Century were observed and documented during a 2015 survey conducted as part of the Phase I Cultural Resources Investigation for the Headworks West Reservoir Project (Beherec and Griffith 2016). These include metal pipelines and vertical infiltration pipes, concrete walls including retaining walls, and a small concrete block structure of unknown function. None of these is located within the flow control station project area.

The Headworks Spreading Grounds was evaluated for inclusion in both the NRHP and CRHR. The resource does not appear to meet the criteria for listing in the NRHP or the CRHR, primarily due to lack of integrity. Because it is not eligible for inclusion in the NRHP, HWSG is not considered a historic property under the NHPA.

DPR forms for P-19-004172 are attached to this memo as Attachment 2.

**Archaeological and Historic Built Environment Survey**

A cultural resources field survey of the Area of Potential Effects for the proposed flow control station was completed by Marc A. Beherec, Ph.D., RPA, on June 23, 2020. A pedestrian survey was conducted within all accessible portions of the project site.

No features associated with resource P-19-004172 (CA-LAN-4172H), the Headworks Spreading Grounds, were recorded within the project area. Therefore, no features associated with this resource were revisited.

The survey revealed that the entire flow control project area has been recently disturbed during construction of the Headworks West and is paved. The project area has been graded or built up with fill dirt and covered with asphalt. Temporary construction buildings stand on the paved lot. None of the original ground surface was visible within the surveyed area.

No new features associated with resource P-19-004172 were observed during the survey.

No cultural resources were identified during the survey.

### **Archaeological Sensitivity and Management Recommendations**

The archival research and survey identified no cultural resources within the project APE. No significant historic properties were identified within the APE. The project will have no impact to historic properties.

The Headworks Spreading Grounds property is located on the banks of the Los Angeles River, and beside the resource-rich hills that are now a part of Griffith Park. Two adobe structures are believed to have once existed within 0.5 mile of the area, and a third is located elsewhere in Griffith Park. Because of the area's rich resources, it might be expected to have been intensively used in prehistoric and early historic times.

However, the area also has a history of intensive disturbance. The Headworks Spreading Grounds property is located on what is naturally the bottomlands beside the Los Angeles River, and natural flooding likely washed away archaeological remains that may have existed at the site prior to the channelization of the Los Angeles River. Deep wells and pipes up to 150 feet have been dug at the site since the first quarter of the 20th century. Moreover, the massive earthmoving associated with the construction of the spreading grounds on the east side of the APE in 1938, and its reorganization between 1954 and 1964, would most likely have destroyed any prehistoric or early historic sites to significant depths. Finally, recent earthmoving construction associated with the Headworks East and West Reservoirs has eradicated most features associated with the original Headworks Spreading Grounds, including the outlines of the six spreading basins that existed in 2004. Furthermore, no archaeological resources were encountered at the site during the construction of the reservoirs.

The archival research and field survey described in this document uphold the findings of Greenwood and Associates' study and the subsequent analysis for the Headworks West Reservoir (Greenwood and Associates 2004; AECOM 2016). Based on the results of the archival research, there is low potential that archaeological resources will be encountered during ground-disturbing activities for the proposed project. Moreover, site impacts since the certification of that EIR have disturbed most of the project area of potential effects. The likelihood of encountering undisturbed soils which may contain resources has substantially reduced.

The certified EIR for the Lower Reach RSC Project includes the following mitigation measures meant to reduce the impact of the project to archaeological resources to a less-than-significant level:

**CUL-2** LADWP shall require the qualified archeologist to provide a cultural resources briefing prior to the start of construction for all construction personnel. If construction personnel discover a cultural resource in the absence of an archeological monitor, construction shall be halted and a qualified archeologist shall be contacted to make an immediate evaluation of significance and recommend appropriate treatment of the resource.

**CUL-5** In the event that human remains or potential human remains are discovered, construction activities within the immediate area of the find shall be immediately halted. The LADWP Construction Project Manager shall immediately notify the LADWP Project Manager and the County Coroner. The County Coroner will make a determination as to the origin of the remains and, if determined to be of Native American origin, the Native American Heritage Commission (NAHC) will be contacted. In consultation with the Most Likely Descendant, the NAHC and qualified archeologist shall determine the disposition of the remains in accordance with California Health and Safety Code §7050.5 and CEQA Guidelines §15064.5(e). If the remains are not of Native American origin, the County Coroner will make a determination as to the disposition of the remains. Construction may continue once compliance with all relevant sections of the California Health and Safety Code have been addressed and authorization to proceed issued by the County Coroner and the LADWP.

The mitigation measures provided in the Project's certified EIR are considered applicable and accurate. No new mitigation measures are proposed

## References Cited

Beherec, Marc. A., and Kyle Griffith

2016 *Phase I Cultural Resources Investigation for the Headworks West Reservoir Project, Los Angeles County, California*. Document prepared by AECOM for Los Angeles Department of Water and Power.

Greenwood and Associates

2004 *Silver Lake Reservoir Complex Storage Replacement Project Cultural Resources Assessment Report*. Report prepared by Greenwood and Associates for CH2MHill, Santa Ana, California.

Gumprecht, Blake

1999 *The Los Angeles River: Its Life, Death and Possible Rebirth*. John Hopkins University Press, Baltimore, MD.

National Parks Service

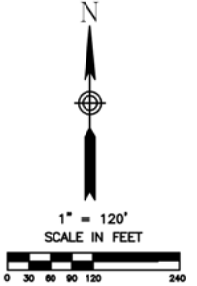
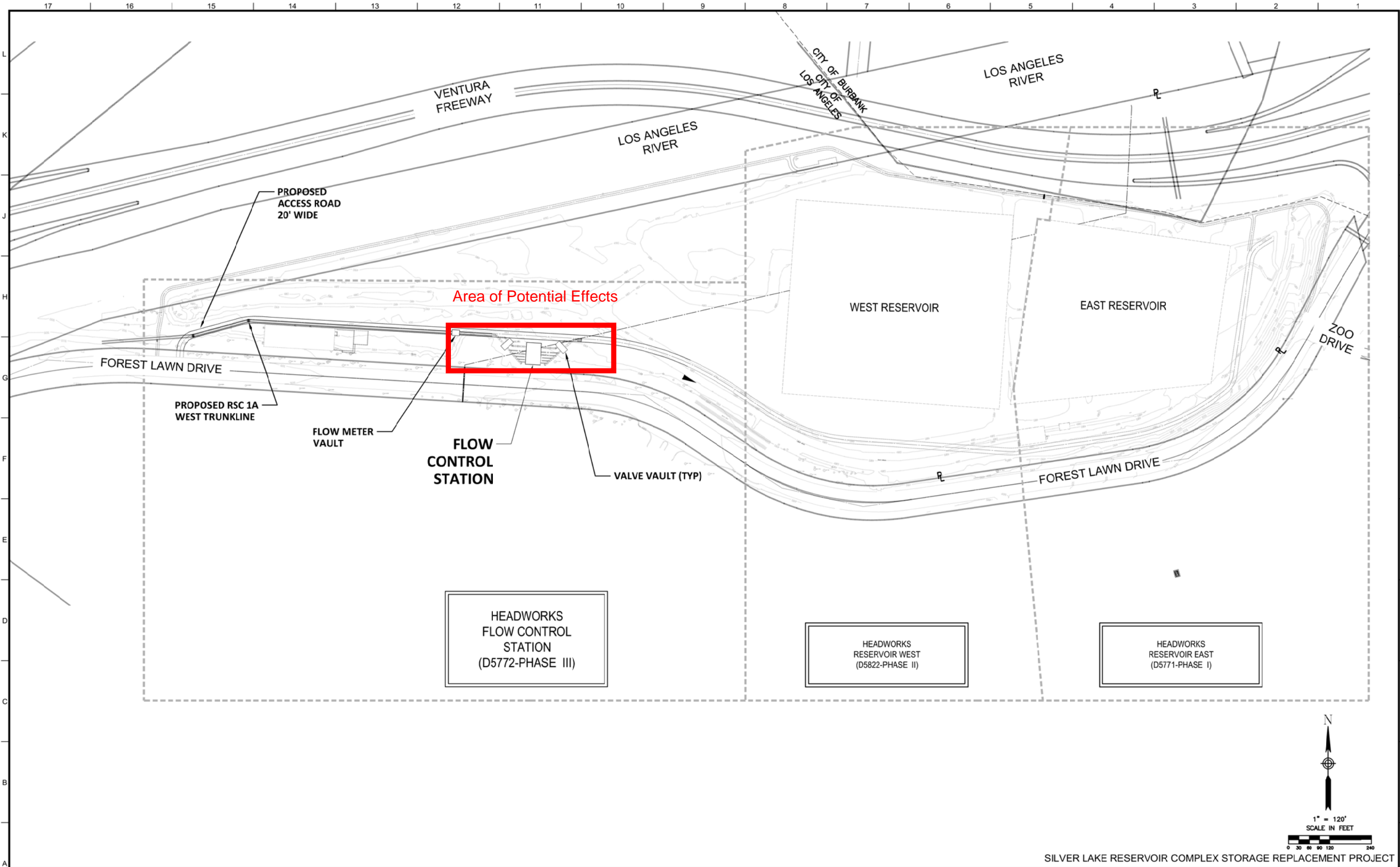
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin 15: Washington, D.C.: National Parks Service.

Office of Historic Preservation

2020 Built Environment Resources Directory. Online at:  
[https://ohp.parks.ca.gov/?page\\_id=30338](https://ohp.parks.ca.gov/?page_id=30338) Accessed June 3, 2020.

Area of Potential Effects

D05772-C-010



SILVER LAKE RESERVOIR COMPLEX STORAGE REPLACEMENT PROJECT

60% DESIGN NOT FOR CONSTRUCTION						REVISIONS		REFERENCES		Scale AS SHOWN		DATE		APPROVED		DATE		HEADWORKS FLOW CONTROL STATION OVERALL PROJECT AREA PLAN	
						Number	Date	Initials	Location	Description	Approved			Designer	M. SHAHMOORADI	04/2019	As to Design	SUSAN ROWGHANI	00/00
														Assistant	C. IR	04/2019	As to Operation	ANGELMO COLLINS	00/00
														Checked By	W. LA	04/2019	As to Distribution	IREONIA LINDSEY	00/00
														Last Update	GIP	04/2019		RICHARD HARASICK	00/00
														Recommended	K. PARBHO	00/00			
														File Name	D5772-C010.DWG	STEVEN COLE	00/00		
																		DEPARTMENT OF WATER AND POWER	DRAWING NUMBER
																		WATER SYSTEM	D05772-C-010
																		CITY OF LOS ANGELES	





State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary #  
HRI #  
Trinomial  
NRHP Status Code

Other Listings  
Review Code

Reviewer

Date

Page 1 of 13

\*Resource Name or #: Headworks Spreading Grounds

**P1. Other Identifier:**

\*P2. Location: ☐ Not for Publication ☒ Unrestricted

\*a. County: Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad: Burbank, CA Date: 1966 (Photo revised 1972; Minor revision 1994)

Unsectioned Subdivision of Rancho Providencia and Scott Tract; S.B.B.M.

c. Address: 6001 West Forest Lawn Drive

City: Los Angeles

Zip: 90068

d. UTM: Zone: 11 S; 378640 mE/ 3779937 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

The Headworks Spreading Grounds is bounded on the north by the Los Angeles River and the 134 Freeway, and on the east and south by Forest Lawn Drive.

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Headworks Spreading Grounds (HWSG) covers approximately 43 acres. It formerly consisted of six spreading basins, ranging in size from 1 acre to more than 8 acres, and a channel from which water was diverted from the Los Angeles River. These had been largely destroyed by construction activities by the time of visit, but 7 historic features associated with the Headworks Spreading Grounds and apparently dating to the middle 20th Century were observed and documented.

\*P3b. Resource Attributes: (List attributes and codes) AH6. Water Conveyance Systems

\*P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) None  
Headworks Spreading Grounds as they existed in 1989 (Google Earth).

\*P6. Date Constructed/Age and

Sources: ☒ Historic  
☐ Prehistoric ☐ Both  
Ca. 1954-1964  
(historicaerials.com)

\*P7. Owner and Address:

City of Los Angeles  
Department of Public Works  
650 S. Spring St., Suite 574  
Los Angeles, CA 90014

\*P8. Recorded by: (Name, affiliation, and address)

Kyle Griffith, B.A.;  
Marc A. Beherec, Ph.D., RPA  
AECOM  
515 S. Flower St., 8<sup>th</sup> Floor  
Los Angeles, CA 90071

\*P9. Date Recorded: October 6, 2015

\*P10. Survey Type: (Describe) Pedestrian survey

\*P11. Report Citation: Marc A. Beherec and Kyle Griffith. 2015. Phase I Cultural Resource Investigation for the Headworks West Reservoir Project,, Los Angeles County, California. Prepared for Los Angeles Department of Water and Power by AECOM. Los Angeles, California.

\*Attachments: ☐ NONE ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record  
☒ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record  
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

## BUILDING, STRUCTURE, AND OBJECT RECORD

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\*NRHP Status Code 6Z

\*Resource Name or # (Assigned by recorder) Headworks Spreading Grounds

**B1. Historic Name:** Headworks Spreading Grounds

**B2. Common Name:** Headworks Spreading Grounds

**B3. Original Use:** Water acquisition and purification

**B4. Present Use:** Water acquisition and purification

\***B5. Architectural Style:** Utilitarian

\***B6. Construction History:** (Construction date, alterations, and date of alterations)

First dam headworks constructed 1902. Subterranean infiltration galleries added in 1905 and expanded in 1916 and 1920. Spreading grounds were developed at the facility in 1938, and redesigned between 1954 and 1964. Site abandoned 1987 due to water contamination. See A11 Continuation Sheet for further details.

\***B7. Moved?** ☒ No ☐ Yes ☐ Unknown **Date:** \_\_\_\_\_ **Original Location:** \_\_\_\_\_

\***B8. Related Features:** Los Angeles River, Dams, Diversion Structures, Pump Houses, Feeding Canal

**B9a. Architect:** Unknown.

**B9b. Builder:** Los Angeles Department of Water and Power.

\***B10. Significance: Theme Water Conveyance** **Area** Los Angeles River, Los Angeles, California  
**Period of Significance** Middle 20th Century **Property Type** Spreading Grounds **Applicable Criteria** N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)  
First constructed as a spreading ground in 1938, and then redesigned between 1954 and 1964, this spreading ground was used to channel water from the Los Angeles River to the city's drinking water supply. The spreading ground system is similar to spreading grounds constructed across Los Angeles County at the same time, but those spreading grounds were meant to replenish groundwater and control flooding.

The Headworks Spreading Grounds does not appear to meet the criteria for listing in the National register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), primarily due to lack of integrity.

**B11. Additional Resource Attributes:** (List attributes and codes)

\***B12. References:**

See Continuation Sheet.

**B13. Remarks:** Documented features anticipated to be destroyed by construction.

\***B14. Evaluator:** Marc A. Beherec, Ph.D., RPA

\***Date of Evaluation:** \_\_\_\_\_

(Sketch Map with north arrow required.)

See attached.

(This space reserved for official comments.)

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**ARCHAEOLOGICAL SITE RECORD**

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_

Page 3 of 13

\*Resource Name or # (Assigned by recorder) Headworks Spreading Grounds

- \*A1. Dimensions:** a. Length 3,570 feet (E/W) x b. Width 900 feet (N/S)  
**Method of Measurement:** ☐ Paced ☐ Taped ☐ Visual estimate ☒ Other: Google Earth measurements  
**Method of Determination** (Check any that apply): ☐ Artifacts ☐ Features ☐ Soil ☐ Vegetation ☐ Topography  
☐ Cut bank ☐ Animal burrow ☐ Excavation ☒ Property boundary ☐ Other (Explain):  
**Reliability of Determination:** ☒ High ☐ Medium ☐ Low Explain: Site limits of original Headworks property  
**Limitations** (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined  
☒ Disturbances ☐ Vegetation ☐ Other (Explain):
- A2. Depth:** 150 feet ☐ None ☐ Unknown Method of Determination: Historic descriptions of depth of subterranean galleries.
- \*A3. Human Remains:** ☐ Present ☒ Absent ☐ Possible ☐ Unknown (Explain):
- \*A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):  
Seven historic features were observed. See Continuation Sheet.
- \*A5. Cultural Constituents** (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):  
No other cultural constituents were observed.
- \*A6. Were Specimens Collected?** ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)
- \*A7. Site Condition:** ☐ Good ☐ Fair ☒ Poor (Describe disturbances): Site has been impacted by construction activities since at least 2007.
- \*A8. Nearest Water** (Type, distance, and direction): Los Angeles River, adjacent to site on north.
- \*A9. Elevation:** 500 feet.
- A10. Environmental Setting** (Describe vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc., as appropriate.):  
The site is located on the south bank of the Los Angeles River, north of Griffith Park. Vegetation consists of native and imported weeds. Surface sediment consists of younger Quaternary alluvium.
- A11. Historical Information:**  
See Continuation Sheet.
- \*A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☒ 1880-1914 ☒ 1914-1945  
☒ Post 1945 ☐ Undetermined  
**Describe position in regional prehistoric chronology or factual historic dates if known:**  
First dam headworks constructed 1902. Subterranean infiltration galleries added in 1905 and expanded in 1916 and 1920. Spreading grounds were developed at the facility in 1938, and redesigned between 1954 and 1964. Site abandoned 1987 due to water contamination.
- A13. Interpretations** (Discuss data potential, function[s], ethnic affiliation, and other interpretations):  
The site has been heavily impacted. Further data potential appears very limited.
- A14. Remarks:** N/A
- A15. References** (Documents, informants, maps, and other references): N/A
- A16. Photographs** (List subjects, direction of view, and accession numbers or attach a Photograph Record.): Please see attached photo log.  
**Original Media/Negatives Kept at:** AECOM 515 S Flower Street, 8<sup>th</sup> Floor, Los Angeles, CA 90071
- \*A17. Form Prepared by:** Marc A. Beherec, Ph.D., RPA **Date:** 4/30/2015  
**Affiliation and Address:** AECOM  
515 South Flower Street, 8<sup>th</sup> Floor  
Los Angeles, CA 90071



## **B10. Significance (Continued): Application of the NRHP and CRHR Criteria**

### ***NRHP Criterion A and CRHR Criterion 1***

The HWSG is associated with water retrieval and conveyance systems of the 20th century. The first infiltration gallery at the HWSG site was built in 1902. Spreading grounds were added in 1938 and reworked between 1954 and 1964. The site was abandoned as a water retrieval site in 1987. However, although the site was important to the early development of the Los Angeles water supply, the surviving elements of the HWSG appear to date to the 1950s and not the facility's original construction. The HWSG and its wells and other features do not appear to have played a significant individual role in local, state, or national history individually because they are representative of such facilities constructed throughout California in the 20th century. They do not meet NRHP Criterion A or CRHR Criterion 1.

### ***NRHP Criterion B and CRHR Criterion 2***

The HWSG was first constructed under the direction of William Mulholland, the important city engineer more famous for his work in the construction of the Los Angeles Aqueduct. The facility is also associated with many organizations who contributed to the planning and implementation of their construction, including the Los Angeles Department of Water and Power. However, research has not revealed a direct association with any individuals involved with the construction or design of the facility's surviving elements, which appear to date to the middle of the 20th century. The HWSG has no direct association with important historic persons and, thus, do not meet NRHP Criterion A or CRHR Criterion 2.

### ***NRHP Criterion C and CRHR Criterion 3***

The HWSG is representative of common spreading grounds and their associated features throughout California. The HWSG is similar to many other facilities, such as the 28 spreading facilities that were built between 1917 and 1994 and owned and operated by LSDPW (Los Angeles County Department of Public Works n.d.; Gibson 2012). These spreading grounds were apparently designed from a standard set of plans, similar to that applied to spreading grounds in the Los Angeles Flood Control District. They have no known associations with individual engineers and do not represent the work of a master. The HWSG does not possess high artistic values because it consists of basic spreading grounds designed for function and utility and not for aesthetic quality. In summary, the HWSG does not have distinctive engineering or architectural features to meet NRHP Criterion C or CRHR Criterion 3.

### ***NRHP Criterion D and CRHR Criterion 4***

The HWSG is not likely to yield further information important to history or prehistory, because the construction history and use of these resources are known. Therefore, the HWSG does not meet NRHP Criterion D or CRHR Criterion 4.

Furthermore, the HWSG retains integrity of location but does not retain integrity of design, materials, workmanship, or setting. The HWSG is in its original locations but lacks feeling and association because it is not functional and has been heavily impacted by past construction. The design of the spreading grounds has been substantially altered. During its active use, the HWSG was actively maintained and upgraded, and at one point between 1954 and 1964 was redesigned on a large scale. Integrity of workmanship is also lost because the system has been altered with modern construction methods of the spreading grounds and water conservation system. Since its abandonment in 1987, and particularly since 2011, it has been massively impacted by construction associated with SLRC SRP, and the infiltration basins are no longer recognizable in aerial photographs.

In summary, the HWSG does not meet any NRHP or CRHR criteria for designation, and does not retain sufficient integrity to be eligible for the NRHP or CRHR in any case due to lack of integrity.

Page 5 of 13

\*Resource Name or #: (Assigned by recorder) Headworks Spreading Grounds

\*Recorded by: K. Griffith

\*Date: October 6, 2015

☒ Continuation ☐ Update

**\*A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):

Feature 1 consists of two vertical pipes, one inside the other. The outer pipe is corrugated iron or steel held together with rivets and measuring approximately 4 feet in diameter. The inner pipe is made of iron, approximately 18 inches. The exposed portion of the pipes measures approximately 6 feet above the current surface grade.

Feature 2 consists of two vertical iron pipes, each measuring 18 inches in diameter and fastened together with a metal strap. The pipes are approximately 18 feet above current grade. The pipe to the west has corroded away in parts. This feature is located approximately 40 feet west of Feature 1.

Feature 3 consists of three concrete walls facing northeast and south; the west side is open. The feature measures 16 feet north to south by 12 feet east to west. Each concrete wall measures 2 feet wide and 2 feet high. A single large metal plate that measures approximately 6 feet by 6 feet lies within the middle of the concrete feature and possibly covers a hole.

Feature 4 consists of a concrete retaining wall surrounding a curved 24-inch steel pipe and I-beam on three sides. The feature measures 10 feet north to south by 10 feet east to west. The vertical iron I-beam is located on the southwest retaining wall, and a pulley and cog are attached to the I-beam. A maker's mark on the cog reads, "PAT'D - B. B BROS. ALL STEEL 2 TON / SEATTLE USA. BEEBE BROS." Beebe Bros., Inc., was incorporated in Seattle in 1942 to produce and market 5-ton capacity hand winches, and continued to produce until 1987, when it was acquired by Ingersoll Rand and became the Ingersoll Rand Material Handling Division (Ingersoll Rand 2015). A steel wire is connected from the curved pipe to the cog on the I-beam. A 12-inch steel pipe is located in the northwest corner of the retaining wall. The pipe extends vertically from the base of the retaining wall to the top, and then turns horizontally to the west, continuing underground for an unknown distance.

Feature 5 consists of a concrete block retaining wall running east to west for a distance of approximately 25 feet. Directly adjacent to the south side of the wall is an 18-inch vertical pipe with a metal box fixed on top that measures 2.5 feet north to south by 2.5 feet east to west. This feature is located approximately 10 feet west of Feature 4.

Feature 6 consists of an 18-inch-diameter horizontal steel pipe that runs in an east-to-west direction. The steel pipe empties into a trough that consists of a 12-inch-diameter steel pipe that is cut in half. The 12-inch-diameter pipe is laid on a slope and drains toward the east. The main pipe continues beneath a service road and is buried to a depth of 5 feet.

Feature 7 consists of a 12-inch-diameter pipe made of an alloy metal, which runs in a north-to-south direction beneath a service road (Plate 8). The pipe is laid on top of an 18-inch-diameter steel pipe that runs east to west (Feature 6). The 12-inch-diameter pipe is approximately 4 feet above the pipe beneath it.

Feature 8 consists of a concrete block building of unknown function. The building measures 15 feet east to west by 10 feet north to south and approximately 12 to 15 feet tall. The building is constructed of stucco with a door on the south side and a 2.5-foot-square hole that was cut into the building (covered with plywood) on the west side. The building is approximately 25 feet south of the Los Angeles River.

Page 6 of 13

\*Resource Name or #: (Assigned by recorder) Headworks Spreading Grounds

\*Recorded by: K. Griffith

\*Date: October 6, 2015

☒ Continuation ☐ Update

**A11. Historical Information:**

The site of the Headworks Spreading Grounds (HWSG) was included within the lands deeded by Mexican Governor Juan B. Alvarado to Vincente de la Osa in 1843. De la Osa sold the land to David W. Alexander in 1849, who subsequently sold it to David Burbank. In 1886, Burbank sold the land to the Providencia Land, Water, & Development Company, on the board of which he sat. The company developed Burbank in 1887, and the settlement incorporated as the City of Burbank in 1911 (City of Burbank n.d.). But the lands within the project APE, sitting as they did on the floodplain of the Los Angeles River, remained undeveloped and outside the City of Burbank.

The project APE is entirely within the historic property of the HWSG, located alongside the Los Angeles River between Los Angeles and Burbank. In 1898, the City of Los Angeles condemned a 2-mile-long strip of land alongside the Los Angeles River north of Griffith Park in order to build a new headworks for the city water system. In 1902, after legal settlements with the private Crystal Springs Land and Water Company, the city built a new diversion dam and water supply conduit at the site. Infiltration galleries, meant to divert water from the Los Angeles River, were added in 1905 and expanded in 1916 and 1920. By 1925 fourteen wells at the HWSG site fed the city water system (Gumprecht 1999).

Spreading grounds were developed at the facility in 1938 to capture further river water. Recharge water was collected in perforated pipes in the spreading basin, connected to pipe galleries approximately 150 feet below the ground surface (Karimi et al. 1998).

Pollution ultimately condemned the HWSG facility. The Headworks Deep Gallery was shut down in 1971. Diversions from the river into the HWSG were halted in 1982. Water was instead purified at the Donald C. Tillman Plant, opened in 1981, rendering the unsafe HWSG facility superfluous. Most of the wells near the Los Angeles River were closed in the 1980s due to industrial contamination originating in the San Fernando Valley, and the last well at the HWSG was closed in 1987 (Gumprecht 1999; Karimi et al. 1998).

In 2004, at the time of the SLRC SRP study, the HWSG had been abandoned for nearly two decades. The site encompassed a series of six dry shallow basins, ranging size from less than 1 acre to more than 8 acres. The group of basins took up a space measuring approximately 0.75 mile in length and 0.20 mile across at the widest point. The surface of the basins was at a depth of approximately 30 feet below the level of Forest Lawn Drive. An earthen channel approximately 15 feet in depth and ran east-west through the central section of the site. To the west of this channel, a concrete gate at one time allowed water from the Los Angeles River to flow onto the site. In 2004, the channel was dry with a large corrugated metal pipe dissecting it. The western basin measured approximately 500 feet across and the eastern basin was occupied by the actual spreading basins. These two basins were separated by a central, east-west running berm consisting of native sand and gravel. There was also a series of smaller basins to the east also divided by earthen berms. The eastern portion of the site has seen extensive filling, which has raised the ground level several feet above the spreading basin berms (Greenwood and Associates 2004:23).

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**CONTINUATION SHEET**

Primary # \_\_\_\_\_  
HRI# \_\_\_\_\_  
Trinomial \_\_\_\_\_

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\*Resource Name or #: (Assigned by recorder) Headworks Spreading Grounds

\*Recorded by: K. Griffith

\*Date: October 6, 2015

■ Continuation □ Update

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\*Resource Name or #: (Assigned by recorder) Headworks Spreading Grounds

\*Recorded by: K. Griffith

\*Date: October 6, 2015

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\*A4. **Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):



**Headworks Spreading Grounds as they existed in 2011 (Google Earth 2015).**



**Feature 1, View East to Northeast**

DPR 523L (1/95)



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■ Continuation □ Update

**\*A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):



**Feature 2, View Northwest, with Feature 1 in Background**



**Feature 3, View East**



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**CONTINUATION SHEET**

Primary # \_\_\_\_\_  
HRI# \_\_\_\_\_  
Trinomial \_\_\_\_\_

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\*Resource Name or #: (Assigned by recorder) Headworks Spreading Grounds

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■ Continuation □ Update

\*A4. **Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):



**Feature 4, View North**



**Feature 5, View Northwest**



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\*Date: October 6, 2015

■ Continuation □ Update

\*A4. **Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):

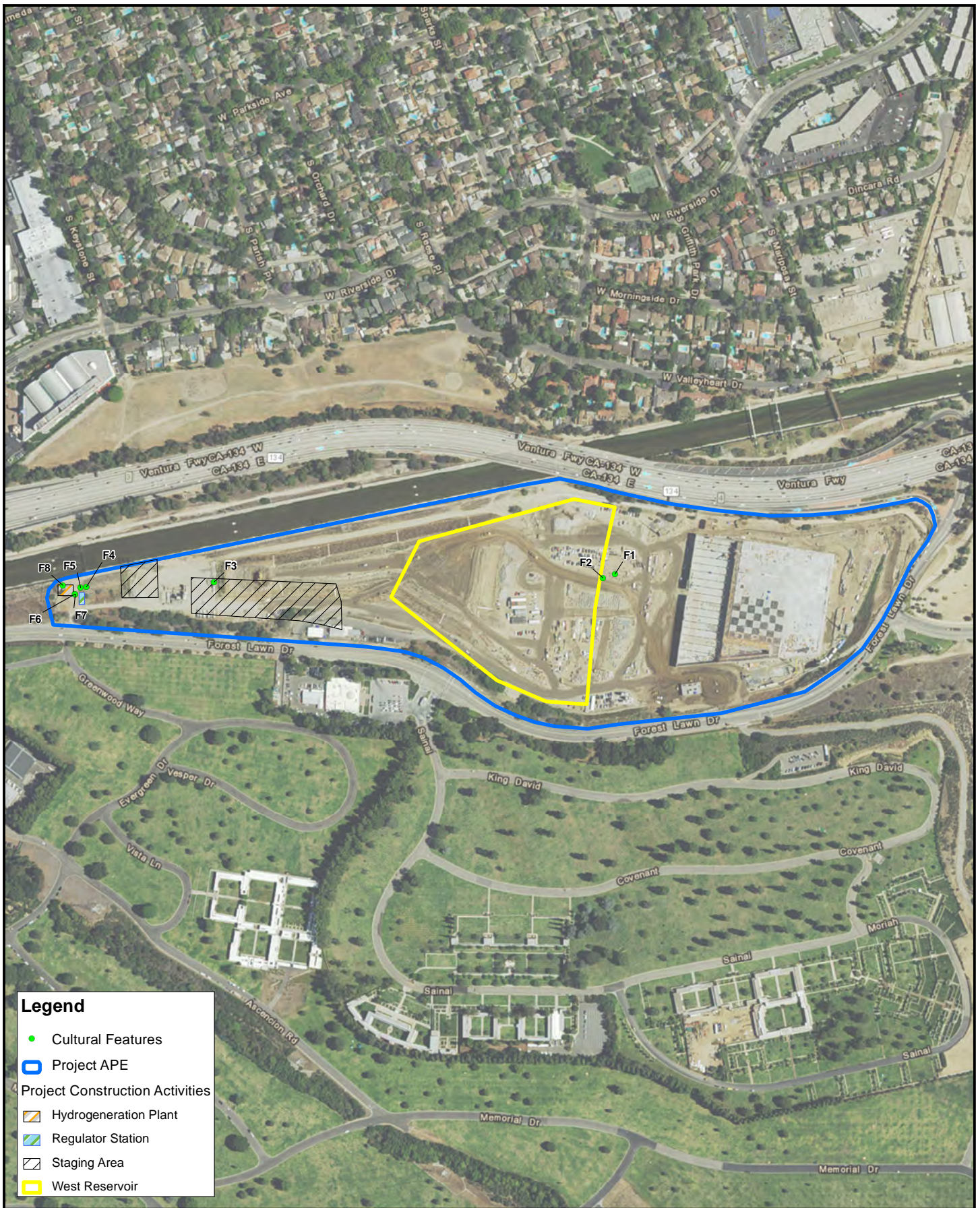


**Feature 6 (Bottom) and Feature 7 (Top) Pipes, View South by Southeast**



**Feature 8, View Southwest**





Source: ESRI 2013



0 250 500 1,000 Feet

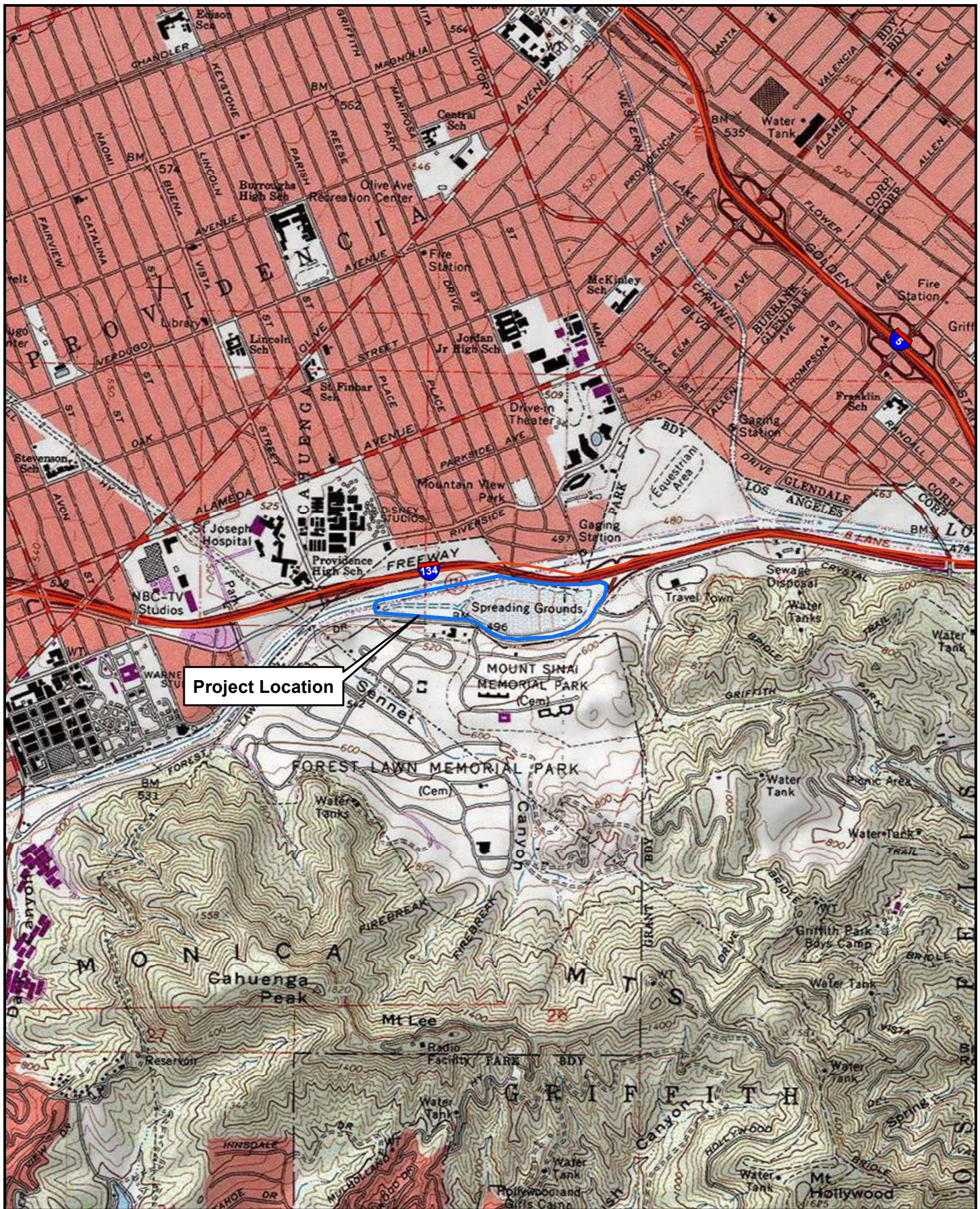
Scale: 1:6,300

**AECOM**  
Sketch Map

LADWP Headworks West Reservoir Project

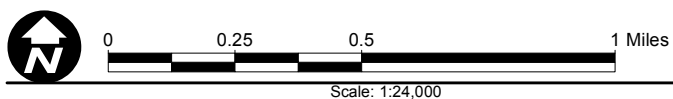
Path: P:\2015\60443424\_HeadworksWest\400 - Technical\Working Documents\Cultural Resources\GIS\Layout\Fig4\_LADWP\_Headworks-West\_CulturalMapv2\_20151011.mxd, 11/3/2015, Aziz\_Bakkoury





Source: USGS 7.5" Quadrangle

**AECOM**



## Project Location Map

### LADWP Headworks West Reservoir Project

Path: C:\Projects\60443424 LADWP Headworks West Reservoir Project\GIS\Maps\Fig2\_LADWP\_Headworks-West\_LocationMap\_20151007.mxd, 10/7/2015, Stevenson.A1