

CHAPTER 3.0

ENVIRONMENTAL IMPACT ANALYSIS

This chapter presents analysis of the project's environmental impacts. The chapter is organized into sections for each of the environmental topics determined to have a potential for significant environmental impacts after preliminary assessment of the project, including the following:

- 3.1 Aesthetics
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.4 Cultural Resources
- 3.5 Geology/Soils
- 3.6 Greenhouse Gas Emissions
- 3.7 Hazards and Public Safety
- 3.8 Hydrology and Water Quality
- 3.9 Noise
- 3.10 Recreation
- 3.11 Traffic/Circulation

Each section describes the environmental setting, provides a summary of the regulatory setting pertaining to the respective environmental topic, establishes the significance criteria used to evaluate environmental impacts, and provides the environmental impact analysis. Where significant impacts are identified, the section lists mitigation measures that would be employed to avoid or reduce the significance of potential impacts. Following the mitigation measures section, a conclusion is provided regarding the significance of impacts after implementation of the mitigation measures. When relevant, the impact analysis in this chapter is organized into three areas representing the three distinct phases or components of the project: Oakvale Road realignment, replacement dam and access road, and restoration of water levels. Headings are provided to establish what portion or portions of the project is or are being addressed by the subsequent text.

Chapter 4 provides discussion of the other environmental topics that were found to be less than significant during preliminary review and that do not warrant full sections in Chapter 3.

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3.1 AESTHETICS

This section analyzes the project's impacts on aesthetics and visual resources. The analysis is based on field observations and visual simulations of project features that are incorporated into figures provided in this section. For purposes of analysis pursuant to CEQA, this discussion focuses on public views of the project's visible changes, as opposed to private views.

3.1.1 Existing Conditions

Existing Visual Character and Quality

The project is located in the northwestern portion of San Diego County within the Peninsular Ranges at Lake Wohlford, an existing human-made lake in northeastern Escondido, California. Within the project vicinity, landform elevations vary from 1,400 feet AMSL to over 2,100 feet AMSL. Lake Wohlford's water level is currently set at approximately 1,460 AMSL.

The project area is accessed primarily by Lake Wohlford Road and Oakvale Road, and is traveled by residents, tourists, and recreationalists seeking enjoyment on the lake. Both roads could be characterized as narrow, winding roads with naturalized shoulders, drainages, and adjacencies. Surrounding visual character is characterized by a mixture of steep, undeveloped hillsides, open pasture lands, clustered oaks and shrubs, granite boulders and rock outcrops. The patchwork of native and nonnative vegetative cover and rocky, granite boulders and outcrops gives the majority of the landscape a vibrant green to dull gray-green and tan/light gray color palette. Plants in the project vicinity vary in height from 1 to 80 feet and range in color from dark to light green, transitioning to more intense hues of yellow and brown during the dry season. The on-site vegetation exhibits a coarse and patchy texture, as vegetative coverage varies across the site from 30 to 80%. Views within the project vicinity can be panoramic with Lake Wohlford serving as a focal point surrounded by hillsides and ridgelines. This surrounding visual context is depicted in Figure 3.1-1.

The project is located in the northwestern portion of San Diego County, within the Peninsular Range. Elevations in the lower Peninsular Range vary from 600 to 2,500 feet AMSL, and topography in this area is characterized by rolling to hilly uplands that contain frequent narrow, winding valleys whose slopes are typically covered with granite boulders and chaparral vegetation on the western slopes, evergreen and temperate forests at and near the peaks, and desert chaparral on the eastern slopes. Where visible, the more densely vegetated north-facing hillsides south of Lake Wohlford are characterized by a more muted gray-green color than those hillsides with differing exposures. The landscape texture ranges from smooth, reflective surface area (lake), to coarse clumped vegetation and boulders/rock outcrops. The northwest horizon of

the viewshed tends to be characterized by more jagged and pyramidal forms compared to the south and east, which are dominated by rounded pyramidal forms dotted with interesting rock outcrops. This surrounding topographical context, and its relationship to the proposed Oakvale Road realignment, dam replacement, and restoration of water levels, is illustrated in Figure 3.1-2.

Project Viewshed

A project viewshed boundary, or limits of visibility, is defined as the visual limits of potential locations visible from a project. The viewshed boundary is also synonymous with the limits of viewers likely to be affected by visual changes brought about by project implementation.

Given the location, the project viewshed is very constrained by surrounding topography and vegetation. The longest views tend to be at elevated positions along the road corridors, with an approximately 1-mile view (northeast to southwest) across Lake Wohlford from Lake Wohlford Road. The viewshed also includes the locations of viewers likely to be affected by visual changes brought about by project features. Figure 3.1-3 indicates the extents of the project viewshed; illustrating areas most likely to be affected by visual changes brought about by implementation of the proposed project.

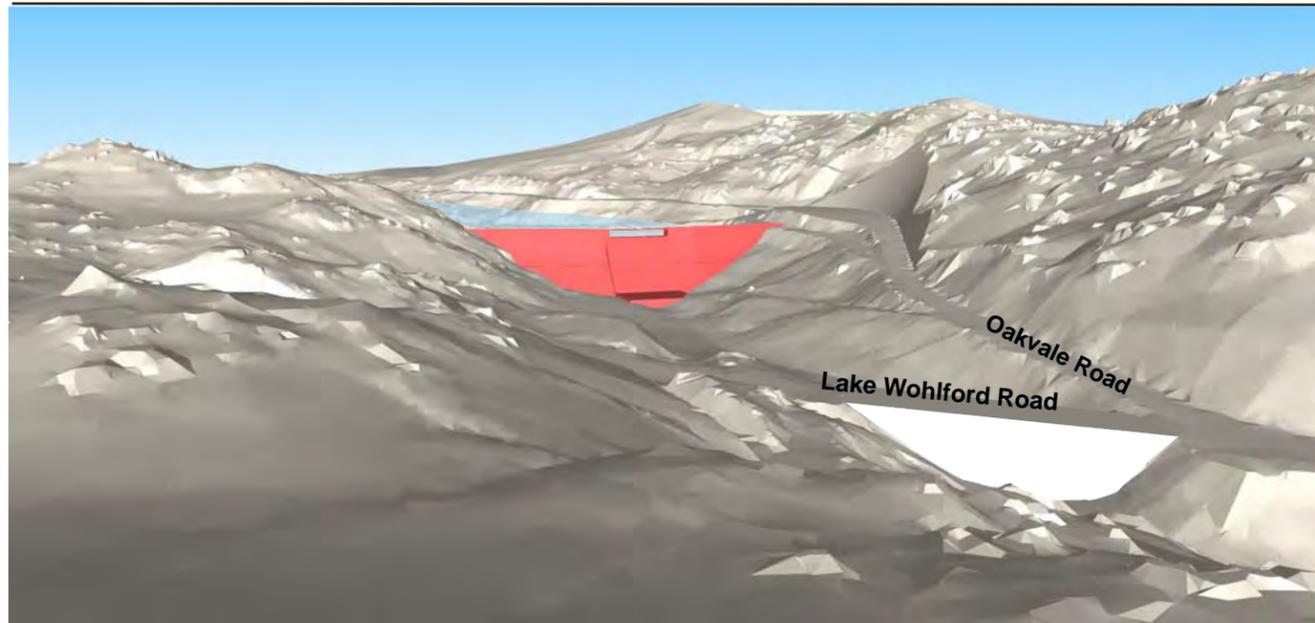
Scenic Vistas

For purposes of determining significance under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Although the City of Escondido does not designate or identify any scenic vistas, views of and from Lake Wohlford could be reasonably considered scenic and valued by visitors, and numerous skyline ridges have been designated in the surrounding hillsides as well as three locations shown as “Peaks and High Points” in the General Plan Resource Conservation Element Figure VII-5, Slopes and Ridgelines.

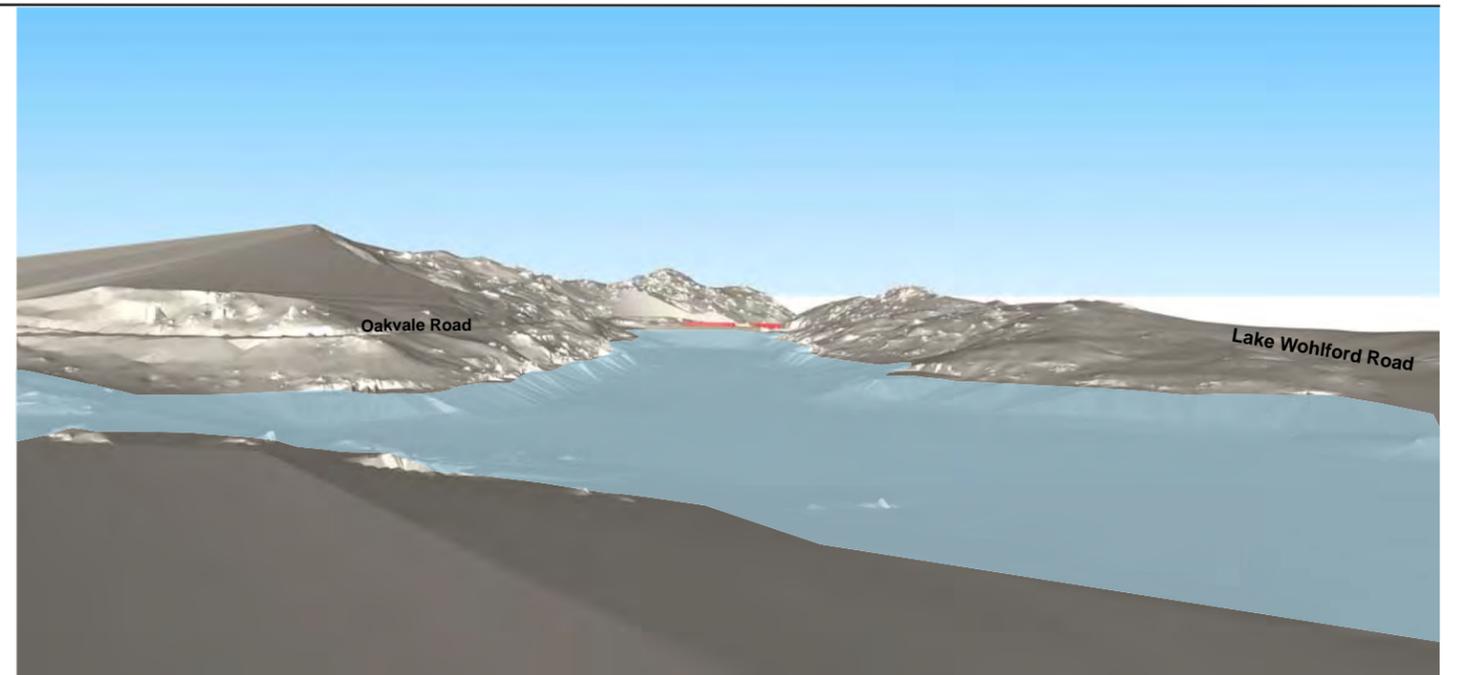
With implementation of the replacement dam, water levels would be restored to prior levels and inundation height would be consistent with past levels. This would visually change the appearance of the reservoir, as presently viewed, by increasing the open water footprint, inundating vegetation immediately surrounding the current water level, and expanding the shoreline. The overall visual character would continue to be of an open water reservoir surrounded by natural open space areas.



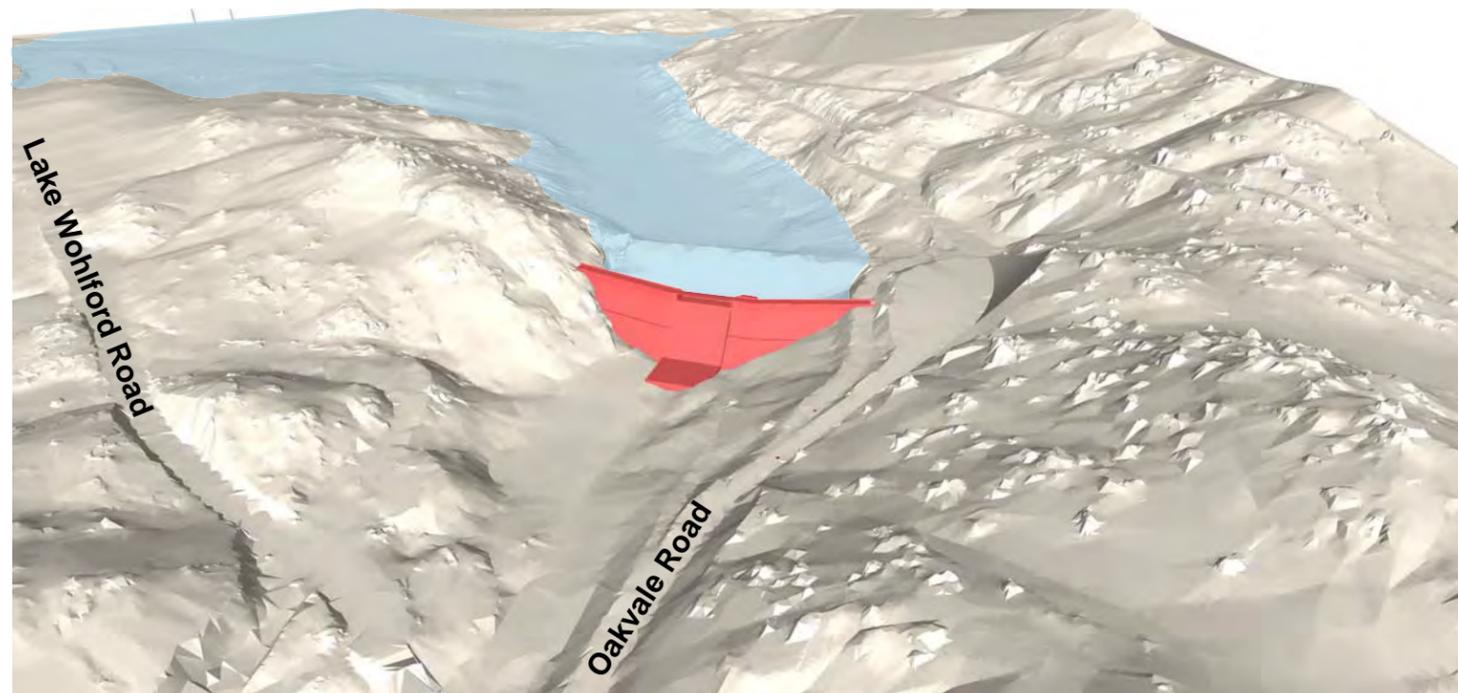
Figure 3.1-1
Surrounding Visual Context



Topographical Context - upstream view of proposed project



Landform Context - comparison of surrounding landforms relative to anticipated project profile



Surrounding Topographical Context - view of proposed dam and associated site grading

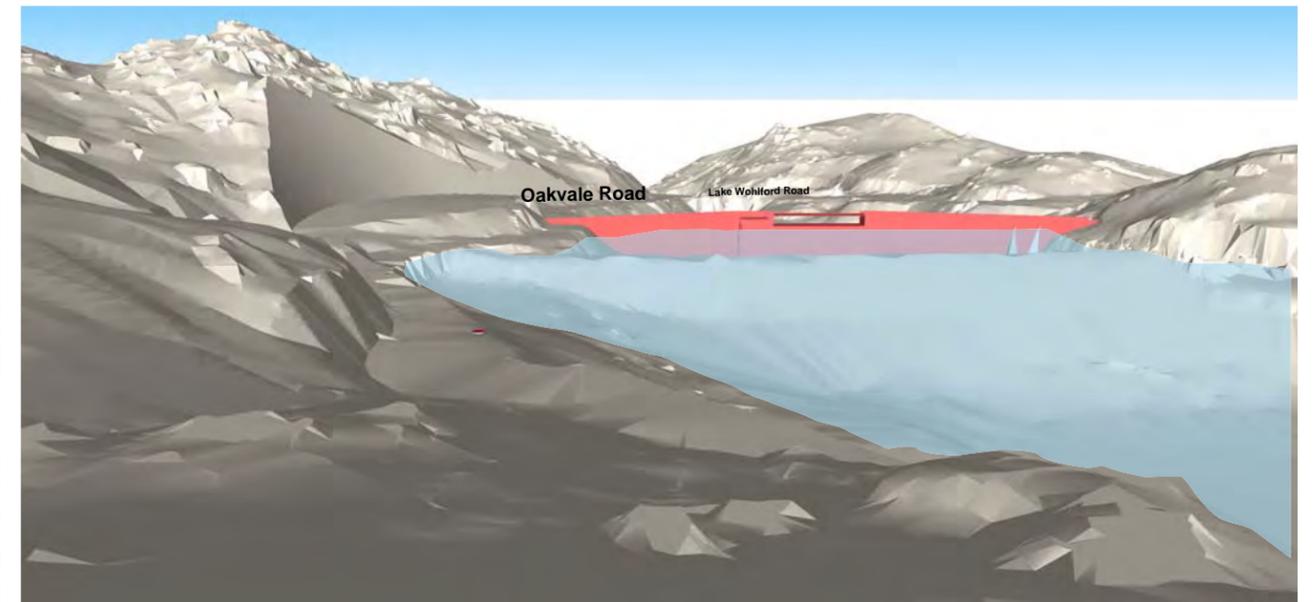


Figure 3.1-2
Surrounding Topographical Context

Lake Wohlford

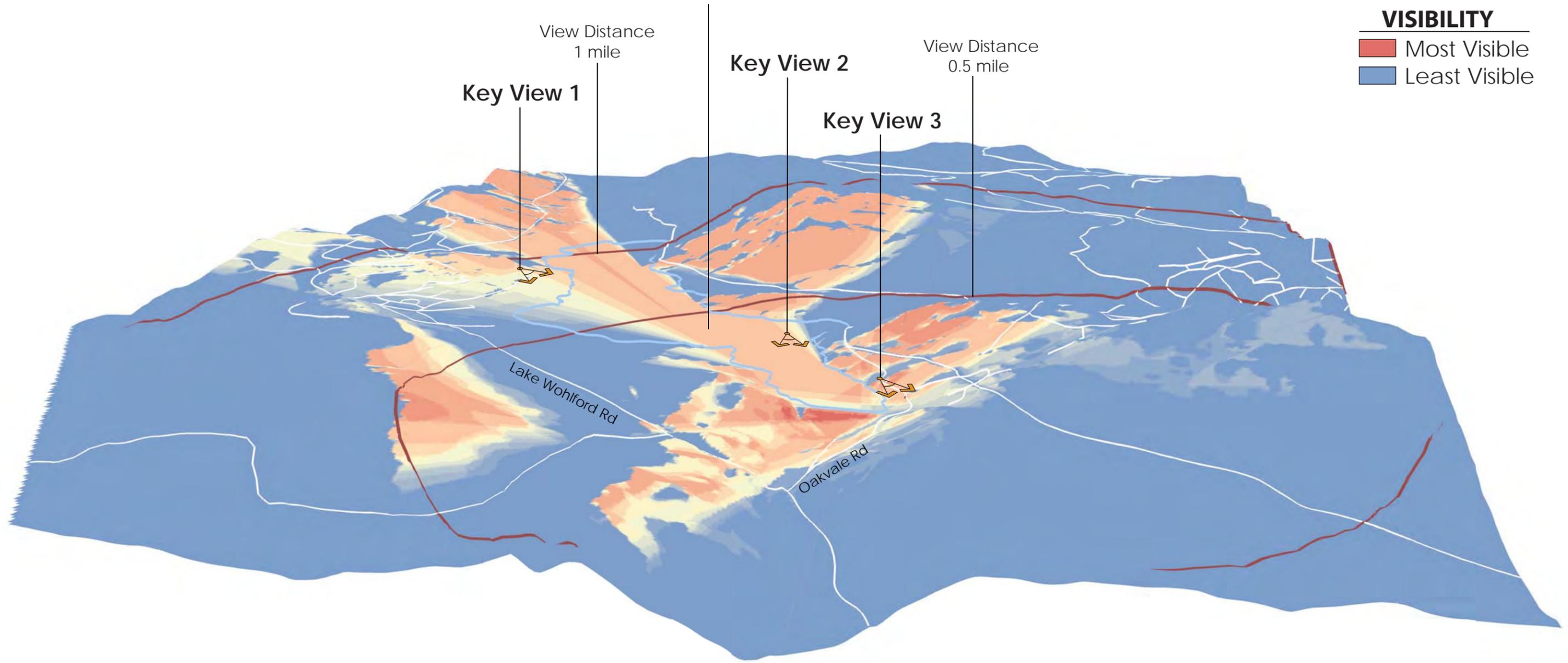


Figure 3.1-3
Project Viewshed Analysis

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Existing Viewer Groups

As noted above in the Existing Visual Character and Quality section, natural features and land uses surrounding the project site support a mixture of public and private lands, agricultural uses, rural uses, and streets and roadways. These land uses typically yield the following viewer groups: motorists, recreationists, and residents. More specifically, Lake Wohlford Road runs along the northern extent of the lake, providing viewers intermittent, direct views across the lake toward the project site. Lake Wohlford itself, and the surrounding hillsides including Bottle Peak, attract boaters, fishermen, hikers, sightseers, off-highway vehicle (OHV) users, and other recreational visitors. Finally, residential receptors scattered throughout the project vicinity have views of the site, most notably those located north of the project area on the hillside above Lake Wohlford Road.

Key View Points

Three key viewpoints were selected to represent public views from areas that would have the highest number of viewers and most direct views of the project area. These key view locations are shown in Figure 3.1-4. Key views focus on the project's permanent visual changes, rather than on temporary views of construction activity that would be available at the primary staging yard.

Key View 1

Key View 1 is located along Lake Wohlford Road to the northeast of the primary staging yard. The viewpoint represents the view experienced by motorists along this stretch of Lake Wohlford Road and nearby areas such as Lake Wohlford Café, Lake Wohlford Marina, and nearby residential developments in the area. The viewshed from this location includes direct and expansive views of the open water across Lake Wohlford to vegetated shorelines and existing roads before rising to the skyline of vegetated hillsides and rocky outcroppings at the peak. The tallest peak in this viewshed is Bottle Peak rising to 2,139 feet in elevation; approximately 659 feet above the lake.

Key View 2

Key View 2 is a representative view from the surface of Lake Wohlford, near the southern shoreline adjacent to Oakvale Road. The location lies to the east of the existing Lake Wohlford dam and represents the view experienced by recreationalists on the lake. From this location, the view distance to the dam construction site is approximately 0.35 mile, and the viewshed from Key View 2 consists primarily of open water in the foreground, the existing dam in the middle

ground, the surrounding hillsides covered by vegetation on the south, and rock outcroppings to the north. Views from this and similar points around Lake Wohlford are typical of those experienced within the project area, and it is anticipated that project implementation would result in minor changes to views from Lake Wohlford, including: inundation of existing exposed shorelines, greater expanse of water surface, limited visibility of the proposed replacement dam, and occasional direct views of the cut slope required to realign Oakvale Road.

Key View 3

Key View 3 is located along Oakvale Road, just east of the existing Lake Wohlford dam. The viewpoint represents the view motorists have while traveling west on Oakvale Road. From this location, the view distance to the project site is approximately 0.5 mile. The viewshed from Key View 1 includes a generally narrow line of sight along the roadway alignment due to rocky cut slopes and vegetated hillsides to the south, and vegetation that obscures views to the north. Through the existing vegetation on the north side of the road, motorists would have intermittent views of the lake and the existing dam.

Regulatory Setting

City of Escondido General Plan, Resource Conservation Element

The Resource Conservation Element establishes policies for conserving important resources, including visual resources, as well as protecting hillside and ridgeline view corridors with particular emphasis on ridgelines, unique landforms and visual gateways (City of Escondido 2012a).

Section E of the Resource Conservation Element states that a primary objective of viewshed policies is to preserve and protect existing internal and external view corridors in Escondido, with particular emphasis on ridgelines, unique landforms, visual gateways, and edges of the community. Policies most relevant to the project as listed in the Visual Resources section include:

Visual Resources Policy 3.1: Preserve significant visual resources that include unique landforms (e.g., skyline ridges, intermediate ridges, hilltops, and rock outcroppings), creeks, lakes, and open space areas in a natural state, to the extent possible.



Source: Google, 2015

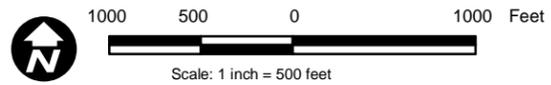


Figure 3.1-4
Key View Location Map

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Visual Resources Policy 3.2: Require new development to avoid obstructing views of, and to minimize impacts to, significant visual resources through the following: creative site planning; integration of natural features into the project; appropriate scale, materials, and design to complement the surrounding natural landscape; clustering of development to preserve open space vistas and natural features; minimal disturbance of topography; and creation of contiguous open space networks.

County of San Diego General Plan, Conservation and Open Space Element

The County of San Diego General Plan, Conservation and Open Space Element establishes goals, policies, and programs that value and protect natural resources to ensure they are available for the future (County of San Diego 2011a). Aesthetics-related goals and policies emphasize the protection of scenic corridors and dark skies within the natural environment and the recognition and enhancement of community character within the built environment.

Within the Conservation and Open Space Element, Lake Wohlford Road (east from Escondido city limits to Valley Center Road) is included in the listing of roads in the County Scenic Highway System and is shown as a County Designated Scenic Highway (County of San Diego 2011a).

Policies most relevant to the project as listed in the Visual Resources section of the element include:

COS-11.1 Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

COS-11.2 Scenic Resource Connections. Promote the connection of regionally significant natural features, designated historic landmarks, and points of regional historic, visual, and cultural interest via designated scenic corridors, such as scenic highways and regional trails.

COS-13.1 Restrict Light and Glare. Restrict outdoor light and glare from development projects in Semi-Rural and Rural Lands and designated rural communities to retain the quality of night skies by minimizing light pollution.

COS-13.2 Palomar and Mount Laguna. Minimize, to the maximum extent feasible, the impact of development on the dark skies surrounding Palomar and Mount Laguna observatories to maintain dark skies which are vital to these two world-class

observatories by restricting exterior light sources within the impact areas of the observatories.

3.1.2 Significance Criteria

The effects of a project on aesthetics would be considered significant if the project would do the following:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.1.3 Impact Analysis

Criterion 1: Would the project have a substantial adverse effect on a scenic vista?

Oakvale Road Realignment

There are no officially designated scenic vistas in the project area. The ridgelines and peaks in the surrounding hillsides would not be visually altered or impacted by the Oakvale Road realignment. However, the entire visual setting of Lake Wohlford with the surrounding natural environment and topography are visually appealing to viewers such as recreationalists boating on Lake Wohlford, trail users, local residents, and motorists on local roadways.

The Oakvale Road realignment footprint visibility is limited due a variety of factors including location on a remote road with low traffic volume, topography, and intervening vegetation. Views from Oakvale Road itself would provide the most direct and near views, but would be limited to motorists and cyclists passing directly in front of the project site, as the winding and narrow nature of the road focuses attention on the road. The realignment area would also be visible from certain parts of the surrounding areas and local residents, motorists, and recreational users would see the project area as a small part of a scenic viewshed dominated by Bottle Peak and other steep hills south and east of the project site.

From Key View 1, viewers would not be able to view the roadway realignment itself; however, the large cut slope required by the roadway realignment would extend toward the peak of the hillside and would be visible to viewers, as shown in the Key View 1 simulation shown in Figure 3.1-5. This alteration would be noticeable to viewers due to the color and textural contrasts of lightly colored sandstone surrounded by the muted grays, greens, and browns of surrounding hillsides. The newly exposed rock cut slope would appear light tan and denuded against the darker greens of the surrounding hillsides. Due to the geological composition of the cut slope, revegetation would not be possible as part of the realignment; however, it is likely that some natural revegetation would occur over time as plants begin to grow from pockets and cracks in the exposed rock. The landform modifications would occur on the north-facing hillside but would not extend beyond or modify the top of the existing ridgeline, as seen from Key View 1.

From Key View 2 and similar views on the lake, recreational viewers would experience direct and indirect views of the Oakvale Road realignment and replacement dam. Views of the cut slope would be similar to those described under Key View 1. These anticipated visual changes are shown in the Key View 2 simulation shown in Figure 3.1-6.

From Key View 3, motorists traveling on Oakvale Road would directly experience the proposed realignment of Oakvale Road, including immediate views of the cut slopes and removal of existing trees and slope vegetation, as shown in the Key View 3 simulation shown in Figure 3.1-7. Because existing vegetation would be removed, the immediately adjacent hillside to the south would appear more consistently rocky and disturbed than the current vegetated hillside; however, this condition currently exists in other locations along Oakvale Road and proposed vegetation removal would afford motorist new views of the surrounding hillsides and Lake Wohlford.

The Oakvale Road realignment would result in landform modification, removal of mature trees and dense vegetation, and removal of rock outcrops, which would be replaced by a modified slope with exposed rock and a new roadway. Due to the steep slope and exposed rock face, revegetation of the slope at construction completion is not possible; the project proposes to revegetate the project area to the extent practicable given soil and substrate conditions. While the realignment would modify the existing visual condition of the new roadway alignment, the visual changes would be consistent with existing segments of Oakvale Road and would open views of the lake while also improving operational efficiency in the immediate project area.

For these reasons, the visual effects from the realignment of Oakvale Road would not be substantially adverse and the impact would be less than significant.

Replacement Dam and Access Road

As described under the Oakvale Road realignment analysis, there are no officially designated scenic vistas in the immediate Project area; however, the reservoir and surrounding natural environment are intrinsically scenic and important to a variety of viewers.

The proposed replacement dam would be most noticeable to viewers boating on the lake (Key View 2) and motorists traveling along Oakvale Road (Key View 3) due to the light gray color of new, unweathered concrete. Both these modifications would be initially noticeable to viewers; however, a reduction in color and textural contrast is anticipated to occur over time as natural weathering softens sharp edges and color contrasts.

The replacement dam would appear to viewers as a newly constructed structure whose rounded, convex form and central spillway differ in appearance from the linear form of the existing dam. The overall visual character of the area, including along most segments of Oakvale Road, would remain very similar to existing conditions due to the limited public visibility of project features. Additionally, the new dam would be 13.5 feet higher in elevation from the water surface and the convex form would add 130 feet to the expanse cross the crest. A permanent paved access road would be constructed to join the realigned Oakvale Road to the left abutment of the replacement dam, which would be visible to drivers along Oakvale Road. The access road to the right abutment would be constructed using a light to medium gray compacted aggregate gravel and would be noticeable from specific points in and around the reservoir until surrounding revegetation matured. A portion of the proposed access road currently exists as the unpaved Osprey Trail, which is a City maintenance road that under present conditions doubles as a public trail originating from the marina. The project-related extension of this trail would not be publicly accessible, but the current alignment of the public portion of the trail would be maintained. Given the presence of an existing dam and related nearby infrastructure, these differences are not anticipated to create a significant visual change or impact to the surrounding visual environment due to the surrounding topographical context and locations from which the project is visible.

Restoration of Water Levels

While not officially designated as a scenic resource or vista, the Lake Wohlford reservoir provides a natural open space area that is visually appealing to viewers such as boaters on the lake, recreationalists using surrounding trails and roadways, motorists, and surrounding residents, as shown in Figure 3.1-1. The larger open water area would not be a substantial visual modification or highly different from the existing visual setting. For these reasons, the restoration of reservoir water levels would not have a substantially adverse effect on scenic vistas of or from Lake Wohlford, and the impact would be less than significant.



Key View 1 - Existing view facing southwest from Lake Wohlford Road



Simulation View 1 - Simulated view depicts planned improvements and maximum reservoir level



Key View Orientation - Key View 1 is located on Lake Wohlford Road east of the Ranger Station and Lake Wohlford Cafe; facing southwest across the lake toward project area

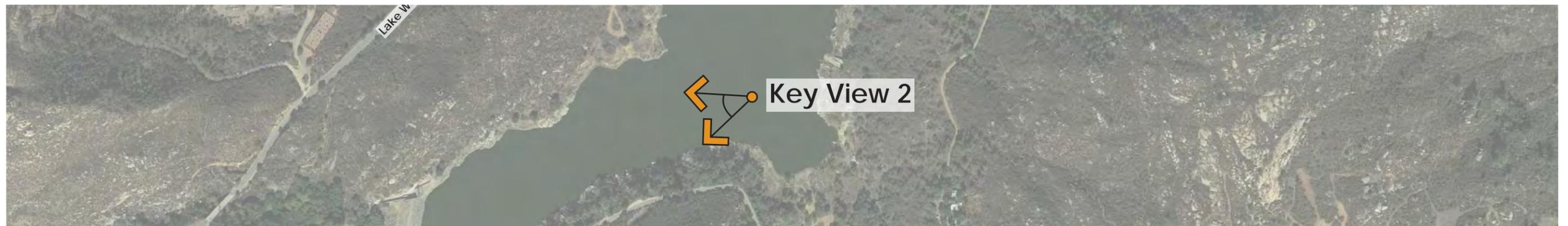
Figure 3.1-5
Key View 1 - Existing and Proposed Conditions



Key View 2 - Existing view facing west toward existing dam from Lake Wohlford



Simulation View 2 - Simulated view depicts replacement dam and maximum reservoir level

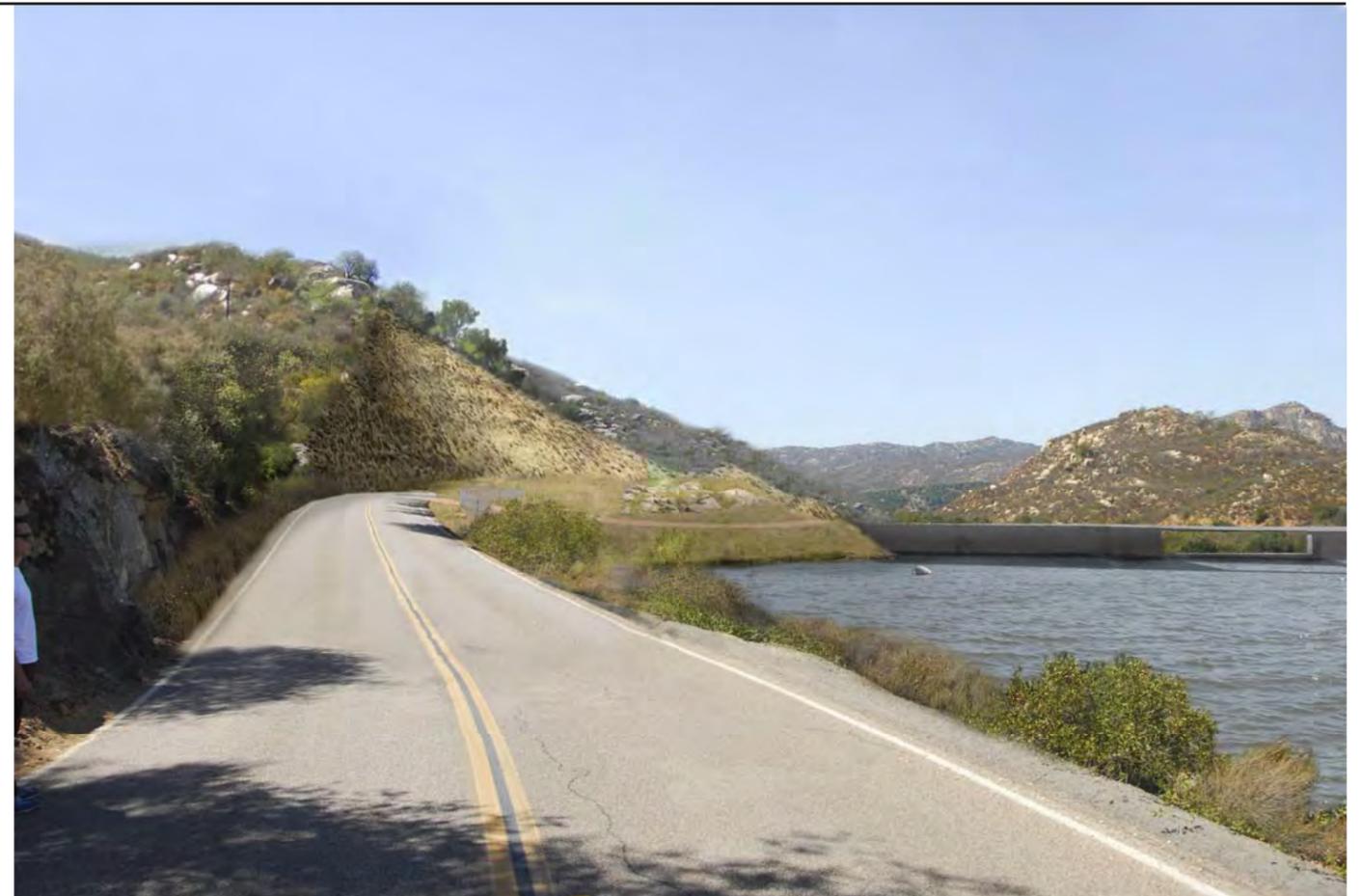


Key View Orientation - Key View 2 is located on Lake Wohlford between Lake Wohlford Ranger Station and Oakvale Road; facing west toward existing dam

Figure 3.1-6
Key View 2 - Existing and Proposed Conditions



Key View 3 - Existing view facing southwest along Oakvale Road



Simulation View 3 - Simulated view depicts cut slopes and tree removal along Oakvale Road, replacement dam, and maximum reservoir level



Key View Orientation - Key View 3 is located east of the existing Lake Wohlford Dam facing southwest along Oakvale Road

Figure 3.1-7
Key View 3 - Existing and Proposed Conditions

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Criterion 2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no officially designated or eligible state scenic highways in the vicinity of the Project (Caltrans 2011). However, the County of San Diego designates Lake Wohlford Road in the vicinity of the project as a County-designated Scenic Highway (County of San Diego 2011).

Oakvale Road Realignment

As described under Criterion 1, the Oakvale Road realignment would require the removal of mature trees, dense vegetation, and rock outcrops. These elements would be replaced by a modified slope with exposed rock and a new roadway. Due to the steep slopes and exposed rock face, revegetation of the slope at construction completion is not possible; however, areas surrounding the roadwork would be revegetated to the extent practicable. Given the existing conditions along Oakvale Road, which include steep slopes and rock outcroppings, and views along Oakvale Road across the reservoir from Lake Wohlford Road (County-designated Scenic Highway), the project would alter in kind and continue to have generally the same visual elements of mature vegetation and rocky slopes. This visual change is shown in Simulation View 1 (Figure 3.1-5) where it is possible to see the modified slope that would expose the rock face instead of appearing as vegetated hillside. While this is a change to the visual aesthetic of the hillside from Lake Wohlford Road, the change is not highly out of character with the steep and often rocky hillsides in the area. Additionally, views across the reservoir toward Oakvale Road can be intermittent and partially obscured by the intervening vegetation along the Oakvale Road alignment. The newly exposed rocky slope can also be seen in Simulation View 3 (Figure 3.1-7) as viewed from Oakvale Road. It is likely that some natural revegetation would occur over time as plants begin to grow from pockets and cracks in the exposed rock and would soften the look of the exposed surface and aid in blending the newly exposed surface with the surrounding landscape. While the necessary vegetation removal and slope exposure as a result of the Oakvale Road realignment would alter the existing visual environment of the local hillside as viewed from Lake Wohlford Road (County-designated Scenic Highway), this change would not substantially damage scenic resources as exposed rocky slopes are a common and existing part of the local visual character and landscape. Thus, the impact would be less than significant.

Replacement Dam and Access Road

Given the distance, curvilinear alignment, and interventions of existing vegetation and topography along Lake Wohlford Road, construction of the proposed dam replacement would not be highly noticeable to motorists traveling along this County-designated Scenic Highway. There may be areas of construction staging and the new access road that would be visible to

motorists traveling on Lake Wohlford Road near the marina parking lot area. The temporary construction visibility would generally include the presence of typical construction equipment and staging areas. While the visibility of construction activities from Lake Wohlford Road would be a change in the visual environment and appear out of context with the rural and natural setting of the reservoirs and surrounding areas, the presence of construction would be temporary and the visual change would cease at the end of construction. For this reason, the visibility of construction activities from Lake Wohlford Road (County-designated Scenic Highway) is not anticipated to substantially degrade existing scenic resources and the impact would be less than significant.

As described above, the actual location of the replacement dam is not highly visible to motorists passing by on Lake Wohlford Road. Views from the road to the replacement dam site are obscured with intervening dense and mature vegetation and topographic features. The curvilinear alignment and narrow roadway tend to focus motorists' attention on the road alignment, rather than into adjacent areas. For these reasons, the replacement dam facility would not substantially damage scenic resources as viewed from Lake Wohlford Road (County-designated Scenic Highway) and the impact would be less than significant.

Restoration of Water Levels

As described under Criterion 1, the proposed restoration of lake water levels, as experienced along Lake Wohlford Road, is anticipated to provide net-positive scenic results by expanding the visibility of the reservoir surface. Therefore, this component of the project would not result in a significant impact.

Criterion 3: Substantially degrade the existing visual character or quality of the site and its surroundings?

Oakvale Road Realignment

As described under Criteria 1 and 2, the Oakvale Road realignment would require the removal of existing mature trees, dense vegetation, and rock outcrops; however, removal of these existing features would be consistent with existing portions of Oakvale Road and the features found in surrounding hillsides. Therefore, the proposed realignment would not substantially degrade existing visual character or quality.

Replacement Dam and Access Road

As described under Criteria 1 and 2, construction of a replacement dam is unlikely to substantially degrade existing visual character and quality of the site and surroundings due to the presence of the existing dam, surrounding visual and topographical context, new distant views of (Lake Wohlford to the north and east; surrounding valley to the south and west) afforded to motorists traveling along Oakvale Road, and the restoration of prior lake water levels.

During the construction phase, a staging yard would be located adjacent to Lake Wohlford Marina and would be visible from points around the reservoir, along Lake Wohlford Road, and potentially some residential viewers north of the reservoir. Overall visibility during the construction phase would be highly variable as clear lines of sight are dependent on location within this project area. As described under Criterion 2 in Section 3.3 (Biological Resources), revegetation of work areas without permanent project features (including staging area) would occur as conditions permitted, which would mitigate permanent visual effects. Given the dynamic and temporary nature of construction staging activities, visual impacts associated with construction phase staging are anticipated to be less than significant.

Restoration of Water Levels

As described under Criteria 1 and 2, and as depicted in Figures 3.1-5, 3.1-6, and 3.1-7, the proposed restoration of lake water levels, as experienced along Lake Wohlford Road, is anticipated to provide net-positive scenic results. Restoration of water levels would increase water surface area, inundate existing shoreline formations, and support the volunteer vegetation established since the lowering of inundation levels.

Criterion 4: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Oakvale Road Realignment

Nighttime work requiring lighting would not be required for construction of the Oakvale Road realignment. No permanent lighting is proposed as part of the realignment. Additionally, the road would be constructed of standard road pavement material that is not conducive to generating glare. Therefore, no impact related to a new source of light or glare would occur that could affect daytime or nighttime views in the area.

Replacement Dam and Access Road

The replacement dam would entail 24-hour work for the estimated 5 months of RCC material placement. Nighttime lighting would be required in the active construction work areas during the 24-hour dam raise construction and at staging or construction yard areas for safety and security purposes. Lighting would be used to illuminate the work areas with appropriate shielding to direct the light. While this would create a new temporary source of nighttime light during the 24-hour construction period, the light would not be of the magnitude to create substantial illumination at sensitive receptor locations as there are no sensitive receptors in the immediate vicinity. Motorists traveling at night along Lake Wohlford Road may receive views toward the lit construction area; however, lighting along and adjacent to roadways is not uncommon and light would not shine directly on or at the road. Also, nighttime lighting would be filtered and obscured due to the presence of dense vegetation surround the work areas and intervening topography.

In addition, as required by Mitigation Measure BIO-1.2, described in Section 3.3 (Biological Resources), all construction lighting would be directed onto the construction site and away from surrounding sensitive habitat, and light glare shields would be required to reduce the extent of illumination into adjoining areas. This measure would help to ensure that lighting was restricted to the areas necessary for work and light spillage into adjacent areas would be minimized.

Palomar Observatory is located approximately 14 miles to the northeast of Lake Wohlford. Any additional nighttime glare that would be generated during project construction would be far less than that generated from the developed areas of Escondido and San Marcos farther southwest of the construction site from the observatory. In this context, project-related glare is not likely to be detectable from the observatory.

For these reasons, temporary nighttime lighting associated with dam construction would create a new source of light during the construction period, but it would not be of the magnitude to create substantial light or glare that would adversely affect daytime or nighttime views in the area and the impact would be less than significant.

Restoration of Water Levels

No permanent lighting is proposed as an element of the restored water levels. Therefore, no impact related to a new source of light or glare would occur that could affect daytime or nighttime views in the area.

3.1.4 Significant Impacts and Mitigation Measures

No significant aesthetic impacts were identified for any component of the project. No mitigation measures are required.

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3.2 AIR QUALITY

This section analyzes the potential for adverse effects to air quality during project construction and operation. The information and analysis contained in this section is based on the Air Quality Technical Study for the Lake Wohlford Dam Replacement Project (AECOM 2016a), which is included as Appendix B of this EIR.

3.2.1 Existing Conditions

Climate, Topography, and Meteorology

The project is located in the San Diego Air Basin (SDAB). The SDAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east. The topography in the SDAB region varies greatly, from beaches on the west, to mountains and then desert to the east.

The climate of the SDAB is characterized by warm, dry summers and mild winters. A common atmospheric condition known as a temperature inversion affects air quality in the SDAB. 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 (mph), the atmospheric pollution potential is greatly reduced.

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 (NO₂); sulfur dioxide (SO₂); 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 (PM₁₀) and PM equal to or less than 2.5 micrometers in diameter (PM_{2.5}). 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.” Full definitions of criteria pollutants and their associated health effects can be found in Appendix B.

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. National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) are presented in Table 1 of Appendix B.

San Diego Air Basin Existing Air Quality

Ambient air pollutant concentrations in the SDAB are measured at air quality monitoring stations operated by ARB and the San Diego Air Pollution Control District (SDAPCD). The closest and most representative SDAPCD air quality monitoring station to the project site is the Escondido monitoring station, located at 600 East Valley Parkway in Escondido, California. Table 3.2-1 presents the most recent data over the past 3 years from the Escondido monitoring station as summaries of the exceedances of standards and the highest pollutant levels recorded for years 2012 through 2014. These concentrations represent the existing, or baseline conditions, for the project.

As shown in Table 2, ambient air concentrations of CO and NO₂ at the Escondido monitoring station have not exceeded the NAAQS/CAAQS in the past 3 years. PM₁₀ concentrations exceeded the CAAQS in 2013, and PM_{2.5} concentrations exceeded the federal standards in all of the past 3 years. Concentrations of 8-hour ozone registered at the monitoring station also exceeded the NAAQS in 2014 and the CAAQS in all of the past 3 years.

SDAB 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.

**Table 3.2-1
Ambient Air Quality Summary –Escondido Monitoring Stations**

Pollutant Standards	2012	2013	2014
Carbon Monoxide (CO)			
National maximum 8-hour concentration (ppm)	3.61	*	*
State maximum 8-hour concentration (ppm)	3.70	*	*
<u>Number of Days Standard Exceeded</u>			
NAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 8-hour (>9.0 ppm)	0	0	0
Nitrogen Dioxide (NO₂)			
State maximum 1-hour concentration (ppb)	62	61	63
Annual Average (ppb)	13	13	11
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour	0	0	0
Ozone			
State maximum 1-hour concentration (ppm)	0.084	0.084	0.099
National maximum 8-hour concentration (ppm)	0.073	0.074	0.079
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour (>0.09 ppm)	0	0	1
CAAQS 8-hour (>0.070 ppm)/NAAQS 8-hour (>0.075 ppm)	2/0	4/0	8/5
Particulate Matter (PM₁₀)^a			
National maximum 24-hour concentration (µg/m ³)	33.0	80.0	43.0
State maximum 24-hour concentration (µg/m ³)	33.0	82.0	44.0
State annual average concentration (µg/m ³)	18.8	23.1	21.5
<u>Estimated Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>150 µg/m ³)	0	0	0
CAAQS 24-hour (>50 µg/m ³)	0	1	0
Particulate Matter (PM_{2.5})^a			
National maximum 24-hour concentration (µg/m ³)	70.7	56.3	77.5
State maximum 24-hour concentration (µg/m ³)	70.7	56.3	82.3
National annual average concentration (µg/m ³)	10.5	10.5	9.9
State annual average concentration (µg/m ³)	*	10.5	9.6
<u>Estimated Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>35 µg/m ³)	1	1	1

µg/m³ = micrograms per cubic meter; ppb = parts per billion; ppm == parts per million

Source: ARB 2015a

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. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

As shown in Table 3.2-2, the SDAB currently meets NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM₁₀, and PM_{2.5}. The SDAB is designated as “marginal” nonattainment area for the 2008 8-hour ozone standard. The SDAB currently falls under a federal maintenance plan for the 1997 8-hour ozone standard. The SDAB is currently classified as a state nonattainment area for ozone, PM₁₀, and PM_{2.5}.

**Table 3.2-2
San Diego Air Basin Attainment Designations**

Pollutant	State	Federal
Ozone (1-hour)	Nonattainment	Attainment
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Unclassified/Attainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Nonattainment	Unclassified/Attainment
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified/Attainment	N/A
Lead	Unclassified/Attainment	Unclassified/Attainment

Source: ARB 2015b.

N/A = not applicable; no standard.

Toxic Air Contaminants

In addition to criteria pollutants, both federal and state air quality regulations also focus on toxic air contaminants (TACs). TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains.

Odor

Odors are considered an air quality issue both at the local level (e.g., odor from wastewater treatment) and at the regional level (e.g., smoke from wildfires). Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These include children, the elderly, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

Regulatory Setting

A full description of the regulatory setting for this document can be found in Section 3 of the Air Quality Technical Report (Appendix B). The following laws, regulations, policies, and plans are applicable to this resource area:

- Clean Air Act (CAA)
- Tanner Air Toxics Act
- Air Toxics Hot Spots Information and Assessment Act
- California CAA
- San Diego Air Pollution Control District Regulation IV

3.2.2 **Significance Criteria**

The effects of a project on air quality would be considered significant if the project would do the following:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Both the County of San Diego and the City of Escondido have established recommended screening level thresholds of significance for regional pollutant emissions (County of San Diego 2007; City of Escondido 2013). Since the site is located outside the City's municipal boundaries, the City has elected to use the San Diego County screening thresholds for regional pollutant emissions to analyze the impacts of the project pursuant to CEQA. The County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality*, which outline these screening level thresholds, state that a project that results in an emissions increase less than these levels would not lead to a violation of a NAAQS or CAAQS (County of San Diego 2007). The daily emission thresholds for criteria pollutants are consistent in both the County and City guidelines. The screening level thresholds used for analysis of project impacts are shown in Table 3.2-3.

**Table 3.2-3
Regional Pollutant Emission Screening Level Thresholds of Significance**

	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	Lead
Pounds per hour	–	25	100	25	–	–	–
Pounds per day	75	250	550	250	100	55	3.2
Tons per year	13.7	40	100	40	15	10	0.6

VOC = volatile organic compounds; NO_x = oxides of nitrogen; SO_x = sulfur oxides; CO = carbon monoxide; PM₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less, PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less

– = No threshold proposed

Source: County of San Diego 2007

This analysis evaluates the impacts of all project components together, including the Oakvale Road realignment, access road and replacement dam Construction, and restoration of water levels. The finding of significance for the CEQA thresholds cannot be determined separately and must be based on emissions for the entire project.

Restoration of reservoir levels would not result in impacts on air quality, so this component is not discussed in the analysis below.

3.2.3 Impact Analysis

Criterion 1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and state air quality standards into compliance with those standards pursuant to the requirements of the CAA and California CAA. Projects that are consistent with the assumptions and control measures used in development of the applicable air quality plan are considered to not conflict with or obstruct the attainment of the air quality levels identified in the plan.

The CAA requires that areas in nonattainment for NAAQS develop a State Implementation Plan (SIP) that describes how and when the nonattainment area will attain NAAQS for the nonattainment pollutant. On June 4, 2014, EPA approved the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County, the SDAPCD maintenance plan for the 1997 8-hour ozone standard. The SDAB achieved the NAAQS for CO in 1993, and EPA approved a 10-year maintenance plan in 1998. The current version of the maintenance plan is the 2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas.

Elements of the SIP are also taken from the Regional Air Quality Strategy (RAQS), the SDAPCD plan for attaining the state ozone standard (SDAPCD 2009). The RAQS was developed pursuant to California CAA requirements and identifies feasible emission control measures to provide expeditious progress toward attaining the state ozone standard, which is more stringent than the federal ozone standard. The RAQS control measures focus on emission sources under SDAPCD authority, specifically stationary sources and some area-wide sources. The RAQS identifies area-wide sources as mostly residential sources, including water heaters, furnaces, architectural coatings, and consumer products.

The SIP includes on-road motor vehicle emissions budgets that represent the maximum allowable levels of emissions from on-road vehicle travel on the region's transportation system. Conformity determinations must be made by the San Diego Association of Governments (SANDAG), and emissions projected to result from implementation of the transportation plans may not exceed these emissions budgets. Emission forecasts rely on projections of VMT by SANDAG, and population, employment, and land use projections made by local jurisdictions during development of the area and general plans. While the SIP and RAQS include estimates of mobile and area sources, minor changes in the assumptions relative to these sources would not obstruct successful implementation of the strategies for improvement of SDAB's air quality.

The proposed project is solely a construction project and would not develop any land uses that would result in a net increase in long-term operational emissions. The use of construction equipment in the SIP and the RAQS is estimated for the region on an annual basis, and construction-related emissions are estimated as an aggregate in the RAQS. The project would not increase the assumptions for off-road equipment use in the SIP and the RAQS.

Because the proposed project would comply with all construction-related SDAPCD rules and regulations and would not construct a land use that would result in a net increase in long-term operational emissions, the project would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant.

Criterion 2: Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction emissions are described as “short-term” or temporary in duration; however, they have the potential to represent a significant impact with respect to air quality. Construction of the project would result in the temporary generation of VOC, NO_x, CO, PM₁₀, and PM_{2.5} emissions. VOC, NO_x, 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 such

parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Earthmoving, material handling operations, and the concrete batch plant are the primary sources of fugitive PM dust emissions from the proposed construction activities.

Construction of the proposed project would include the following construction phases: Oakvale Road improvements, dam foundation, access road, replacement dam construction, and demolition of existing dam and existing outlet tower. It is anticipated that construction activities would occur in a linear fashion and that construction phases would not overlap.

As shown in Table 3.2-4, construction emissions for the project would result in maximum daily emissions of approximately 14 pounds of VOC, 165 pounds of NO_x, 63 pounds of CO, 245 pounds of PM₁₀, and 37 pounds of PM_{2.5}. Additional modeling assumptions and details are provided in Appendix B of the Air Quality Report (Appendix B of the EIR).

**Table 3.2-4
Estimated Maximum Daily Construction Emissions by Project Component**

	VOC	NO _x	CO	PM ₁₀ ^{1,2}	PM _{2.5} ¹
Staging (Mobilization)	1.71	21.23	10.57	7.07	4.17
Oakvale Road	7.17	96.89	35.79	65.58	17.29
Dam Foundation	8.29	121.24	43.67	244.89	37.08
Access Road	3.90	42.68	22.33	91.36	20.22
Replacement Dam	14.27	164.85	63.14	108.80	17.69
Demolition of Existing Dam	1.86	44.91	9.87	61.39	9.87
Maximum Daily Construction Emissions (lbs/day)	14.27	164.85	63.14	244.89	37.08
Threshold of Significance (lbs/day)	75	250	550	100	55
<i>Significant Impact?</i>	No	No	No	YES	No

¹ PM₁₀ emissions shown include the sum of particulate matter (PM) with aerodynamic diameter 0 to 2.5 microns and PM with aerodynamic diameter 2.5 to 10 microns.

² Fugitive dust emissions were reduced based on watering two times per day.

VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = suspended PM; PM_{2.5} = fine PM

Source: Estimated by AECOM in 2016

As shown in Table 3.2-4, construction-related emissions of VOC, NO_x, CO, and PM_{2.5} would not exceed the thresholds of significance and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. However, construction-generated PM₁₀ emissions would exceed the mass emission threshold of 100 lbs per day, and construction emissions could violate an ambient air quality standard or contribute substantially to an existing violation (**Impact AQ-1**). Therefore, construction impacts related to violation of an ambient air quality standard would be significant. Implementation of Mitigation Measures AQ-1.1 through AQ-1.3 would be required. Because the County lbs/day screening threshold is the same as the

City's lbs/day threshold, the impact conclusion and mitigation measures would be the same if the City was applying its own threshold for this impact analysis.

Criterion 3: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

A significant impact related to air quality would occur if implementation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

The cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SDAB, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

The thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. These thresholds are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would not exceed the thresholds of significance would not contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile, and would not impede attainment and maintenance of ambient air quality standards.

Because the proposed project would exceed the project-level air quality significance thresholds for PM₁₀ emissions, the proposed project's construction emissions would have a cumulatively considerable contribution to the region's air quality. Therefore, the cumulative impact would be significant (**Impact AQ-2**). Implementation of Mitigation Measures AQ-1.1 through AQ-1.3 would reduce PM₁₀ emissions to a less than significant level. This cumulative impact would be less than significant with mitigation.

Criterion 4: Would the Project expose sensitive receptors to substantial pollutant concentrations?

The nearest off-site sensitive receptors are single-family residences located approximately 900 feet to the northeast of the staging area and batch plant location. The majority of road and dam

construction activities would occur at distances of 900 to 3,000 feet from these residences. The residential properties represent the nearest sensitive receptors with the potential to be impacted as a result of construction of the proposed project.

Construction-Related Health Risks

The greatest potential for TAC emissions resulting from construction of the proposed project would originate from diesel PM emissions associated with heavy equipment operations. Construction of the proposed project would result in the generation of diesel PM from the use of off-road diesel construction equipment at the project site. Most diesel PM emissions associated with material delivery trucks and construction worker vehicles would occur off-site.

The generation of diesel PM emissions from construction projects typically occurs in a single area for a short period of time. Construction emissions would occur intermittently throughout the day, as construction equipment is required, rather than as a constant plume of emissions from the project site. All construction emissions would cease following completion of the proposed project.

The dose of TACs to which receptors are exposed is the primary factor used to determine health risk and is a function of concentration and duration of exposure. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure a person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period to a fixed amount of emissions results in a higher exposure level and higher health risks for the maximally exposed individual.

Furthermore, the dose (i.e., concentration levels) to which nearby receptors would be exposed would be limited because of the distance from the project site (approximately 900 to 3,000 feet from the nearest sensitive receptor to the site). ARB has published studies that show a 70% decrease in PM emissions at 500 feet from freeways and high-traffic roads, which are continuous emission sources (ARB 2005). Emissions would be dispersed around the project site; thus, TAC emissions from project construction would be less concentrated than those from a typical roadway and would be less likely to substantially expose receptors. SDAPCD rules and permits and Mitigation Measures AQ-1.1 through AQ-1.3 would also reduce PM₁₀ emissions generated by construction of the proposed project. Therefore, it is anticipated that PM concentrations would decrease substantially before affecting the nearest sensitive receptor.

Thus, considering the distance to the nearest sensitive receptor, intermittent emission source, relatively low overall exposure period, and the highly dispersive nature of diesel PM emissions (Zhu et al. 2002), construction emissions would not generate pollutant concentrations that expose

sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

Carbon Monoxide

CO concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses, such as residential areas, schools, preschools, playgrounds, and hospitals. As a result, air districts typically recommend analysis of CO emissions at a local rather than a regional level.

Because increased CO concentrations are usually associated with roadways congested and with heavy traffic volume, many agencies have established preliminary screening criteria to determine with fair certainty that, if not violated, project-generated, long-term operational local mobile-source emissions of CO would not result in, or substantially contribute to, emissions concentrations that exceed the 1-hour ambient air quality standard of 20 parts per million (ppm) or the 8-hour standard of 9.0 ppm.

Level of service (LOS) is a measurement of an intersection's performance based on idling time and speed of vehicles. Intersections operating at LOS E or F would result in a greater number of vehicles idling and/or moving slowly through the intersection, thereby increasing the possibility for a CO hotspot.

During construction of the proposed project, construction-related vehicles would contribute temporary traffic volumes to the existing roadway network. Daily vehicle trips would occur as result of equipment and material delivery trucks, and construction workers coming to and from the project site.

The traffic analysis prepared for the proposed project indicates that all of the studied intersections are calculated to currently operate at service levels of LOS C or better during both the AM and PM peak hours (LLG 2014b). Roadway segments, including Lake Wohlford Road and Valley Parkway, currently operate at LOS C or better. Project trips were distributed regionally based on potential destinations for material hauling from construction activity. The rest of the trips are distributed to regional destinations via the City of Escondido's identified truck routes, ultimately reaching I-15 for regional access (LLG 2014b). The traffic impacts proposed for the project do not exceed the applicable significance thresholds of the City and County, and all intersections and roadway segments would continue to operate at LOS C or better with the addition of project-related trips.

The proposed project's construction traffic would not contribute significant volumes to intersections operating at LOS E or F. Therefore, the CO concentrations resulting from the project would not violate the CAAQS for either the 1-hour period (20 ppm) or the 8-hour period (9.0 ppm). This impact would be less than significant.

Criterion 5: Create objectionable odors affecting a substantial number of people?

Sources that may emit odors during construction activities include exhaust from diesel construction equipment and heavy-duty trucks, which could be considered offensive to some individuals. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. The proposed project would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. As discussed above, the nearest sensitive receptor would be located approximately 900 feet away from the batch plant and staging area. Because of the amount and types of equipment, the temporary nature of these emissions, and the highly diffusive properties of diesel exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction.

After construction of the proposed project, all construction-related odors would cease. Operation of the proposed project would not be expected to add any new odor sources. As a result, the proposed project would not create objectionable odors affecting a substantial number of people. The impact would be less than significant.

3.2.4 Significant Impacts and Mitigation Measures

Impact AQ-1: Construction-generated PM₁₀ emissions would exceed the applicable mass emission threshold of 100 lbs per day; therefore, construction impacts related to violation of an ambient air quality standard would be significant (Criterion 2).

Mitigation Measure AQ-1.1: The following measures shall be implemented by the construction contractor to reduce fugitive dust emissions associated with off-road equipment and heavy-duty vehicles:

- Water the grading areas a minimum of twice daily to minimize fugitive dust;
- Stabilize graded areas as quickly as possible to minimize fugitive dust;
- Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry;

- Remove any visible track-out into traveled public streets within 30 minutes of occurrence;
- Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
- Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
- Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling;
- Suspend all soil disturbance activities if winds exceed 25 mph;
- Cover/water on-site stockpiles of excavated material;
- Enforce a 15-mph speed limit on unpaved surfaces;
- On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of PM caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather; and
- Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the contractor to reduce dust generation.

Mitigation Measure AQ-1.2: Minimize idling time by shutting equipment off when not in use or reducing the time of idling to no more than 5 minutes (5-minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.

Mitigation Measure AQ-1.3: Maintain construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic at least once per month and determined to be running in proper condition before it is operated.

Impact AQ-2: Because the proposed project would exceed the project-level air quality significance thresholds for PM₁₀ emissions, the proposed project's construction emissions would have a cumulatively considerable contribution to the region's air quality (Criterion 3).

Based on estimates consistent with South Coast Air Quality Management District Rule 403 requirements for site-watering activities, Mitigation Measure AQ-1.1 would reduce fugitive dust emissions by 60 percent. Potential reductions were not estimated for the remaining mitigation

measures, since the extent to which they would affect emissions associated with construction of the proposed project is unknown. The maximum mitigated PM10 emissions would be 85.57 pounds per day. Implementation of Mitigation Measures AQ-1.1 through AQ-1.3, as listed above, would effectively reduce Impact AQ-2 to a less-than-significant level. No other mitigation is warranted.

With the implementation of Mitigation Measures AQ-1.1 through AQ-1.3, as described above, all impacts related to air quality would be reduced to less than significant.

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3.3 BIOLOGICAL RESOURCES

This section describes existing biological resources conditions and identifies potential impacts during project construction and operation. Information provided in this section is derived from the *Lake Wohlford Dam Replacement Project Biological Technical Report* (BTR) (AECOM 2014a) and the *Lake Wohlford Dam Replacement Project Jurisdictional Delineation Report* (JDR) (AECOM 2014b). These reports are provided in this EIR as Appendices C and D, respectively. Additional biological resources information specific to the Oakvale Road realignment is taken from the Oakvale Road Realignment and Improvement Project MND (City of Escondido 2015b). A 45-day report submitted to USFWS documenting the results of updated protocol surveys conducted during the 2017 breeding season, in response to a request from USFWS and CDFW submitted during the Draft EIR public review period, is provided as Appendix C-1.

3.3.1 Existing Conditions

This section describes the existing biological setting of the Biological Study Area (BSA), including the regional context of the site, vegetation communities, plant species, wildlife species, rare and sensitive plant and wildlife species either known or potentially occurring in the proposed project site, jurisdictional waters, and wildlife corridors.

Methods and Definitions

Biological Study Area

The BSA addressed in this report consists of the project's impact area plus an approximately 500-foot buffer. The project's impact areas include approximately 33.64 acres that are assumed disturbed by project construction (referred to herein as the limits of disturbance or LOD). In addition to this direct impact area, the BSA includes land within the 1,480-foot elevation maximum reservoir level after completion of the project and an approximately 500-foot buffer around this 1,480-foot contour. The BSA is shown in Figure 3.3-1.

The BSA is within the County of San Diego's draft NCMSCP and the draft Escondido Subarea Plan for the MHCP; however, those documents are in draft form and do not have regulatory applicability to the project. Because the project is located outside the City's municipal boundaries and the County has an adopted standard for applying habitat-based mitigation in the County's Biological Mitigation Ordinance (BMO), the City has elected to apply the BMO in assessing the project's habitat impacts pursuant to CEQA and identifying habitat-based mitigation.

Special-Status Species

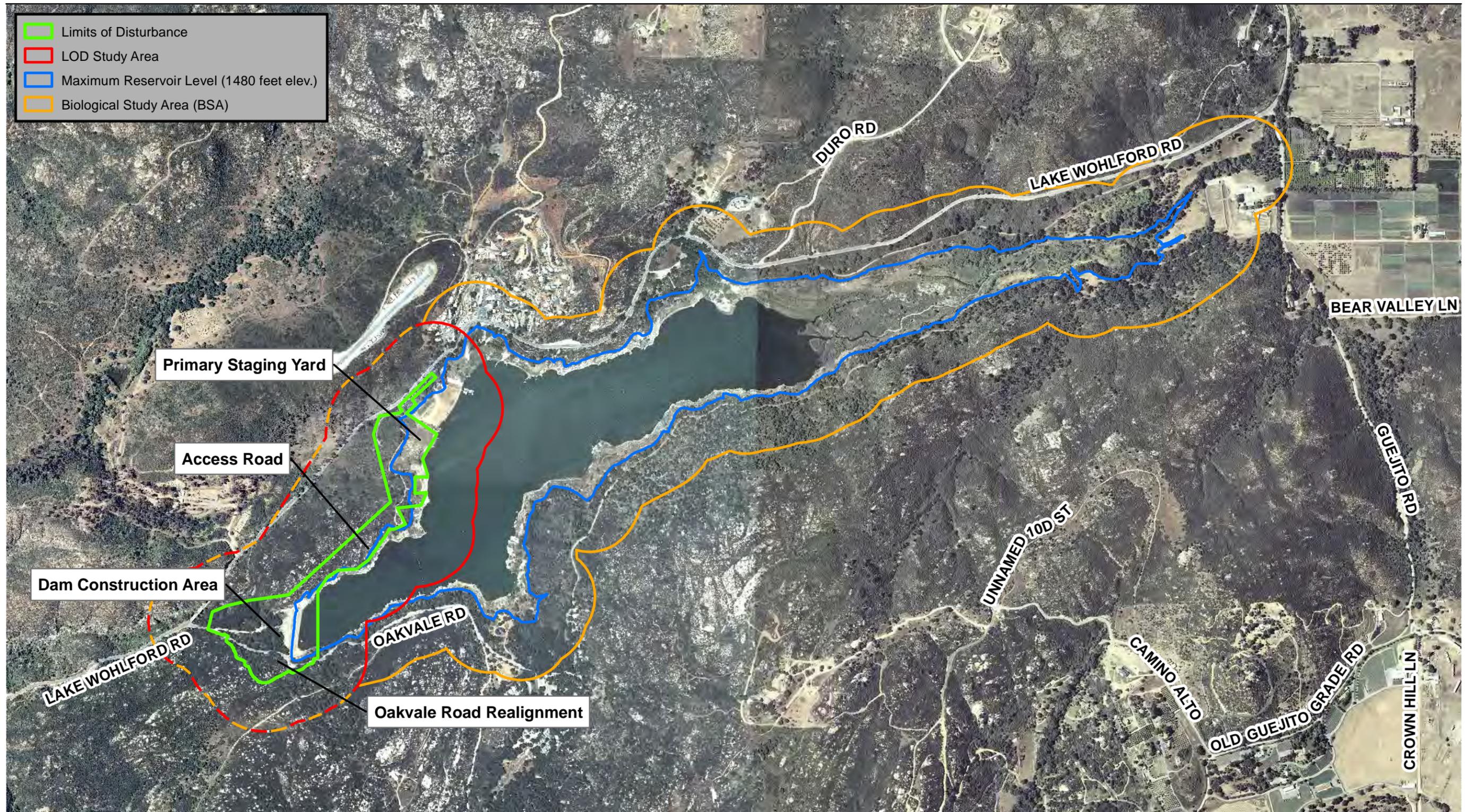
For purposes of this analysis, species are considered to have special status if they meet at least one of the following criteria:

- Listed as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA)
- California Department of Fish and Wildlife (CDFW) Species of Special Concern or Watch List (CDFW 2013)
- CDFW fully protected species (CDFW 2013)
- Listed as sensitive by the California Native Plant Society (CNPS 2013)
- Covered under the draft NCMSCP and/or draft Escondido Subarea Plan

Biological Resources Surveys

Biological field surveys completed for the project included a vegetation mapping survey; general wildlife reconnaissance surveys; rare plant surveys; USFWS protocol surveys for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher; focused bat surveys; and a delineation of wetlands and waters that are jurisdictional of federal and state agencies. Prior to the initiation of biological field surveys and the environmental analyses, existing data were compiled and reviewed for the BSA. This process included a review of the available data on past observation from the CNPS California Rare Plant Rank (CRPR) List, California Natural Diversity Database (CNDDDB), and SanGIS (CNPS 2013; CDFW 2013).

Vegetation mapping was conducted concurrently with rare plant surveys, which occurred during the appropriate blooming periods for local sensitive plant species in January, March, and June 2013. General wildlife surveys coincided with USFWS protocol surveys for the three bird species identified above during spring and summer 2013, and as updated in 2017 in response to a comment on the Draft EIR. Focused bat surveys were conducted in the summer and fall of 2013. Complete survey details and USFWS protocols are described in Section 2.2 of the BTR (Appendix C).



Source: SanGIS 2012; Black & Veatch 2014; USGS 2013

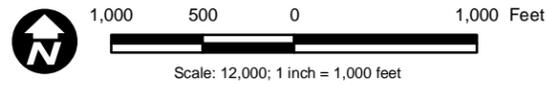


Figure 3.3-1
Biological Study Area

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Environmental Setting

Vegetation Communities

Fourteen native and naturalized vegetation communities were determined present in the BSA. This includes the wetlands communities emergent wetland, freshwater marsh, lakeshore, open water, southern willow scrub, and coast live oak riparian forest; and the upland communities Diegan coastal sage scrub, southern mixed chaparral, nonnative grassland, Engelmann oak woodland, coast live oak woodland, and eucalyptus woodland, ornamental woodland, and valley needlegrass grassland. One additional unvegetated cover type, urban/developed, was also mapped. Of these vegetation communities and cover types, all were detected within the LOD and maximum inundation area, with the exception of eucalyptus woodland, ornamental woodland, and valley needlegrass grassland. The mapped locations of the vegetation communities within the BSA are shown in Figure 3.3-2. Detailed descriptions of each vegetation community are provided in Section 3.1 of Appendix C. The BMO classifies vegetation communities into tiers that reflect their relative biological resource values, ranging from Tier I (highest value) to Tier IV (lowest value). Table 3.3-1 details the acreage of the vegetation communities within the LOD and maximum inundation area, along with their BMO tier designations. In this table, areas that are in both the LOD and maximum inundation area are shown as LOD acreage impacts, and not in the inundation acreages.

Jurisdictional Waters and Wetlands

As presented in Table 3.3-2, a total of 205.17 acres of waters of the U.S.¹ and state² were delineated for the project, including areas within the LOD and maximum inundation area. Of those acres, 167.05 acres are waters of the U.S. and state under the purview of USACE, RWQCB, and CDFW consisting of Escondido Creek and Lake Wohlford and their abutting wetlands. Also, several small ephemeral channels that are tributary to Escondido Creek and Lake Wohlford were delineated. The additional 38.12 acres is exclusively waters of the state under the purview of CDFW, which consists of the outer limits of the riparian corridor that surrounds Escondido Creek and Lake Wohlford. The jurisdictional delineation results are shown in Figure 3.3-3.

¹ Jurisdictional waters of the U.S. include jurisdictional waters of the state.

² State jurisdictions often exceed, in lateral extent and area, federal jurisdiction. Therefore, jurisdictional waters of the U.S. include waters of the state. Although federal and state jurisdictions do overlap, they remain distinct for regulatory administration and permitting purposes.

**Table 3.3-1
Vegetation Communities and Cover Types within the
LOD and Maximum Inundation Area**

Vegetation Community	BMO Tier Designation	Holland Code ¹	LOD (acres)	Maximum Inundation Area (acres) ²	Total (acres)
Wetlands					
Emergent Wetland	I	N/A	0.00	4.13	4.13
Freshwater Marsh	I	52400	0.00	13.75	13.75
Lakeshore	I	N/A	1.25	11.63	12.88
Open Water	I	N/A	2.12	126.85	128.97
Southern Willow Scrub	I	63320	0.41	26.75	27.16
Coast Live Oak Riparian Forest	I	61000	0.00	1.03	1.03
Subtotal Riparian and Wetlands			3.78	184.14	187.92
Uplands					
Engelmann Oak Woodland	I	71181	2.36	1.70	4.06
Coast Live Oak Woodland	I	71162	8.01	8.25	16.26
Diegan Coastal Sage Scrub	II	32500	4.31	1.21	5.08
Nonnative Grassland	III	42200	2.60	18.77	21.37
Southern Mixed Chaparral	III	37121	8.58	0.14	8.72
Subtotal Uplands			25.86	30.07	55.49
Other Cover Types					
Urban/Developed	N/A	12000	4.00	3.14	7.14
Subtotal Other Cover Types			4.00	3.14	7.14
Total (acres)			33.64	217.35	250.55

¹ Based on the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008).

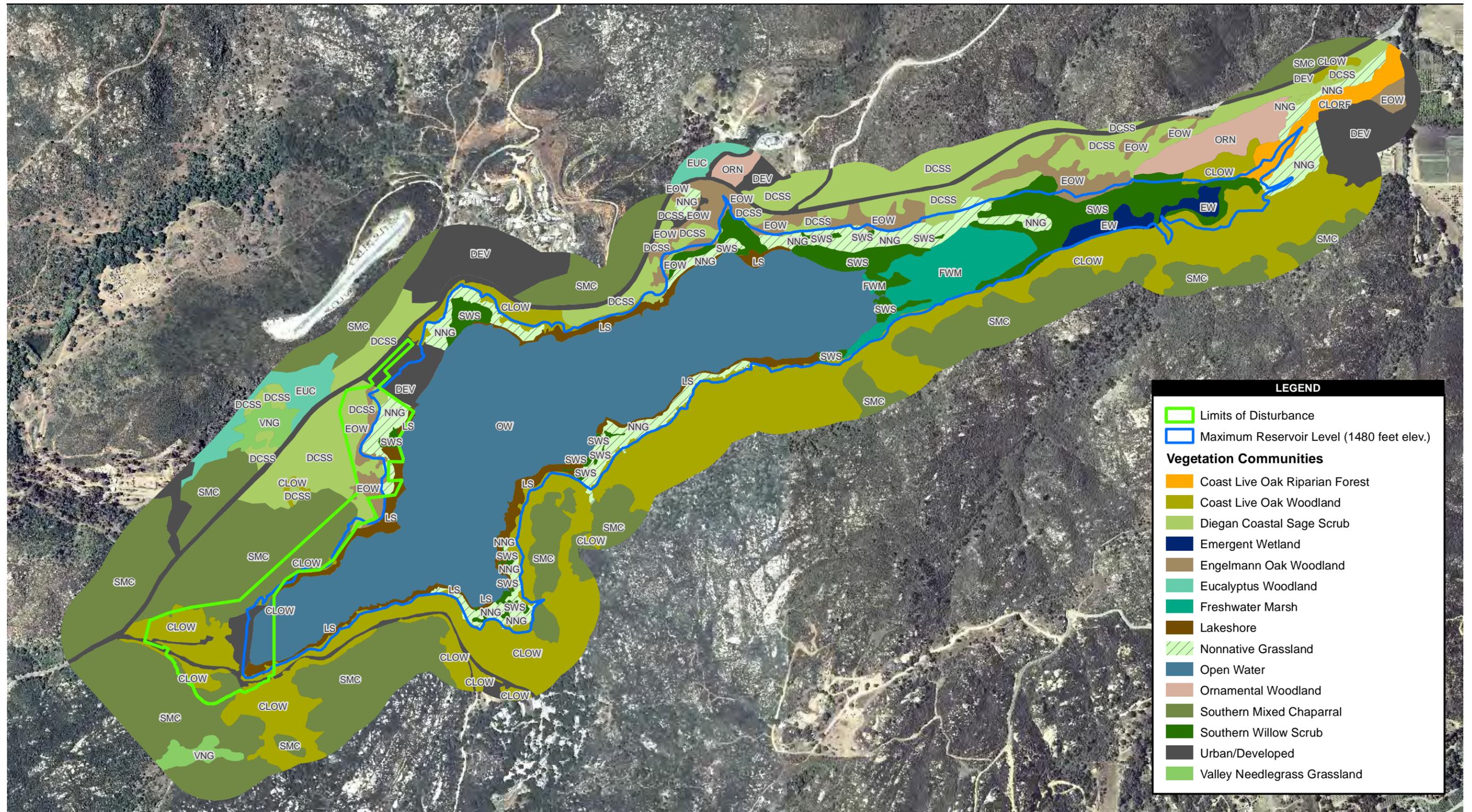
² Acreages in this column only include areas within the 1,480-foot elevation that are outside the LOD; there is no overlap.

Note: All acreages are rounded to the nearest hundredth, which may account for minor rounding error in totals.

**Table 3.3-2
Summary of Waters of the U.S. and State Occurring within
the Limits of Disturbance and Maximum Inundation**

Type of Habitat	USACE (acres) ¹	RWQCB (acres) ¹	CDFW (acres) ¹
Waters of the U.S.			
Wetland	27.27	27.27	27.27
Other Waters	139.78	139.78	139.78
Subtotal Waters of the U.S.	167.05	167.05	167.05
Waters of the State			
Riparian Component	-	-	35.23
Other Waters	-	-	2.88
Subtotal Waters of the State	-	-	38.12
Grand Total Jurisdictional Waters	167.05	167.05	205.17

¹ Jurisdictional waters acreage of the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).



Source: ; AECOM 2014; SanGIS 2012.

850 0 850 Feet

Scale: 1:10,200; 1 inch = 850 feet

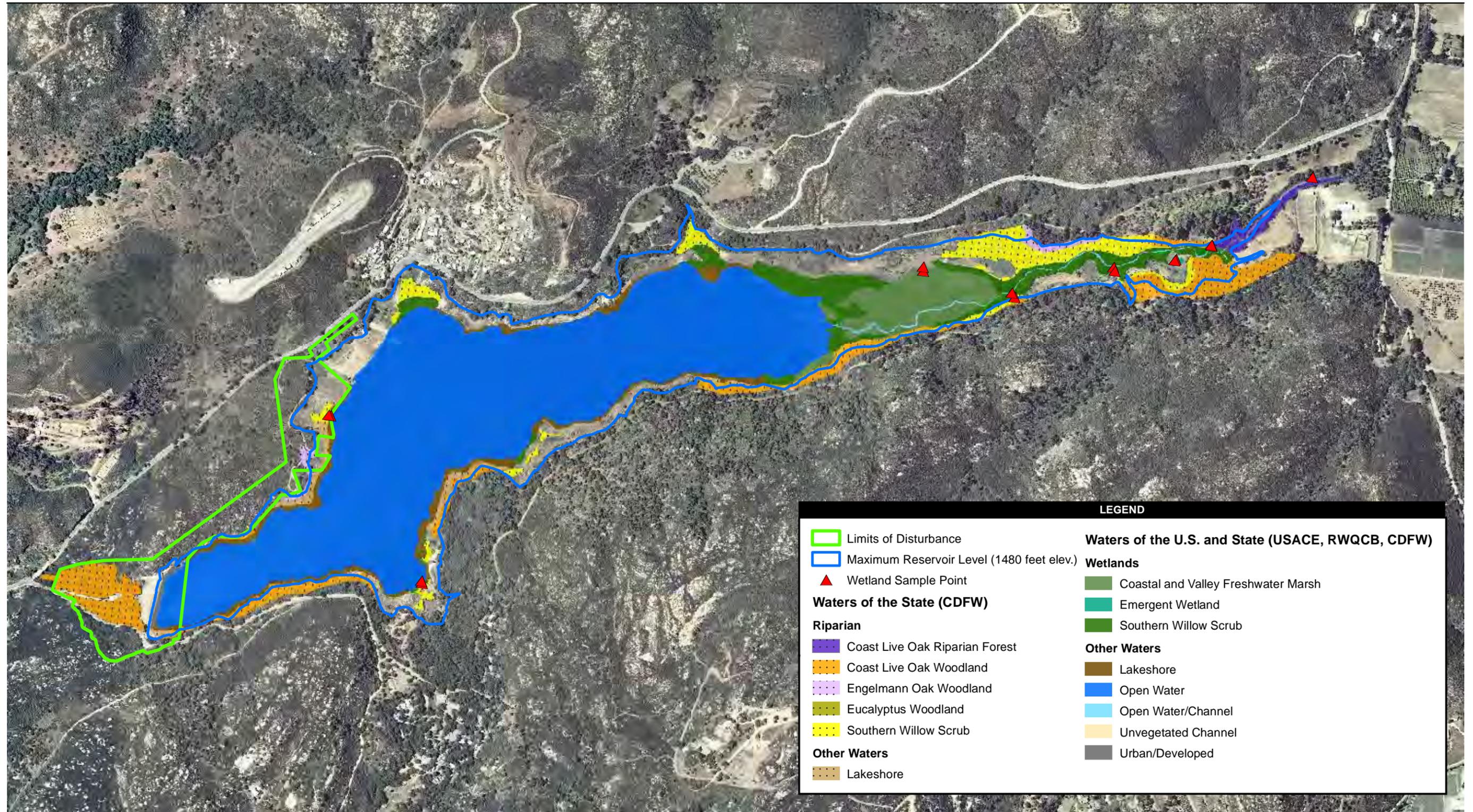
LEGEND

- Limits of Disturbance
- Maximum Reservoir Level (1480 feet elev.)

Vegetation Communities

- Coast Live Oak Riparian Forest
- Coast Live Oak Woodland
- Diegan Coastal Sage Scrub
- Emergent Wetland
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Freshwater Marsh
- Lakeshore
- Nonnative Grassland
- Open Water
- Ornamental Woodland
- Southern Mixed Chaparral
- Southern Willow Scrub
- Urban/Developed
- Valley Needlegrass Grassland

Figure 3.3-2
Vegetation Communities



Source: SANDAG 2012; AECOM 2014

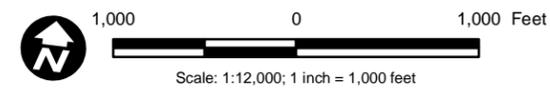


Figure 3.3-3
Jurisdictional Delineation

Sensitive Plant Species

In total, 224 plant species were detected in the BSA during vegetation mapping and rare plant surveys (Appendix F of the BTR, which is included in this document as Appendix C). The CNDDDB search identified 49 special-status plant species that have potential to occur within the BSA based on the project's regional location. Table 4 of Appendix C lists the plants, their sensitivity status, whether suitable habitat for the plant is present in the BSA, and the determination of species presence or absence in the BSA. See Section 3.3 of Appendix C for additional detail and rationale of presence/absence determination for these species.

Only one sensitive plant species, Englemann oak (*Quercus engelmannii*), was observed within the BSA. Englemann oak is present in the LOD, the proposed inundation area, and areas of the project's buffer. This species does not have listing status under the federal ESA or CESA, but is considered sensitive by CNPS and classified as CRPR List 4.2 (i.e., a plant of limited distribution, moderately threatened in California). It is also a species covered under the draft Escondido Subarea Plan. The locations of Englemann oak woodlands within the BSA are shown in Figure 3.3-4.

Sensitive Wildlife Species

According to the CNDDDB search and the USFWS species list, 41 special-status wildlife species have potential to occur within the BSA based on the project's regional location and prior observation data. Table 5 of Appendix C lists the wildlife species from the CNDDDB search, their sensitivity status, the results of the project surveys indicating detection or nondetection of the species, and the probability of occurrence in the BSA. See Section 3.4 of Appendix C for additional detail and rationale of presence/absence determination for these species.

Based on habitat conditions in the BSA observed during initial reconnaissance surveys, USFWS protocol surveys were conducted for coastal California gnatcatcher (CAGN), least Bell's vireo (LBV), and southwestern willow flycatcher (SWFL) in 2013. Focused bat surveys were also conducted in 2013. No CAGN, LBV, or SWFL were detected in the BSA during the 2013 protocol surveys or other surveys conducted that year. In response to a request from CDFW and USFWS in their joint comment letter submitted on the Draft EIR, the City conducted updated protocol surveys for these bird species during the 2017 breeding season. The 45-day report to USFWS documenting the results of these surveys is included as Appendix C-1. No CAGN or SWFL were detected during these updated surveys. One LBV pair was detected during three of the early survey visits, but was not detected in the final four survey visits occurring in June and July. This pair was observed shifting locations during the early survey visits, apparently investigating areas to determine an ideal nesting site, but no nests were observed. Once they

could no longer be detected, it was assumed that they had ultimately moved outside the survey area to nest, and suitable Suitable habitats for these species—CAGN and SWFL within the BSA were concluded to be unoccupied. AECOM concluded in the 45-day report that the habitat in the LBV survey area is generally too open to be ideal for LBV breeding. AECOM also observed many brown-headed cowbirds (*Molothrus ater*) during multiple survey visits for LBV and SWFL, indicating a significant presence of this nest parasite, similar to observations made during the prior surveys in 2013, which represents a constraint on occupation of the site by LBV.

Focused bat surveys identified two CDFW Species of Special Concern bat species in the BSA, but no roosting sites were documented.

The following seven sensitive wildlife species were detected within the BSA during surveys:

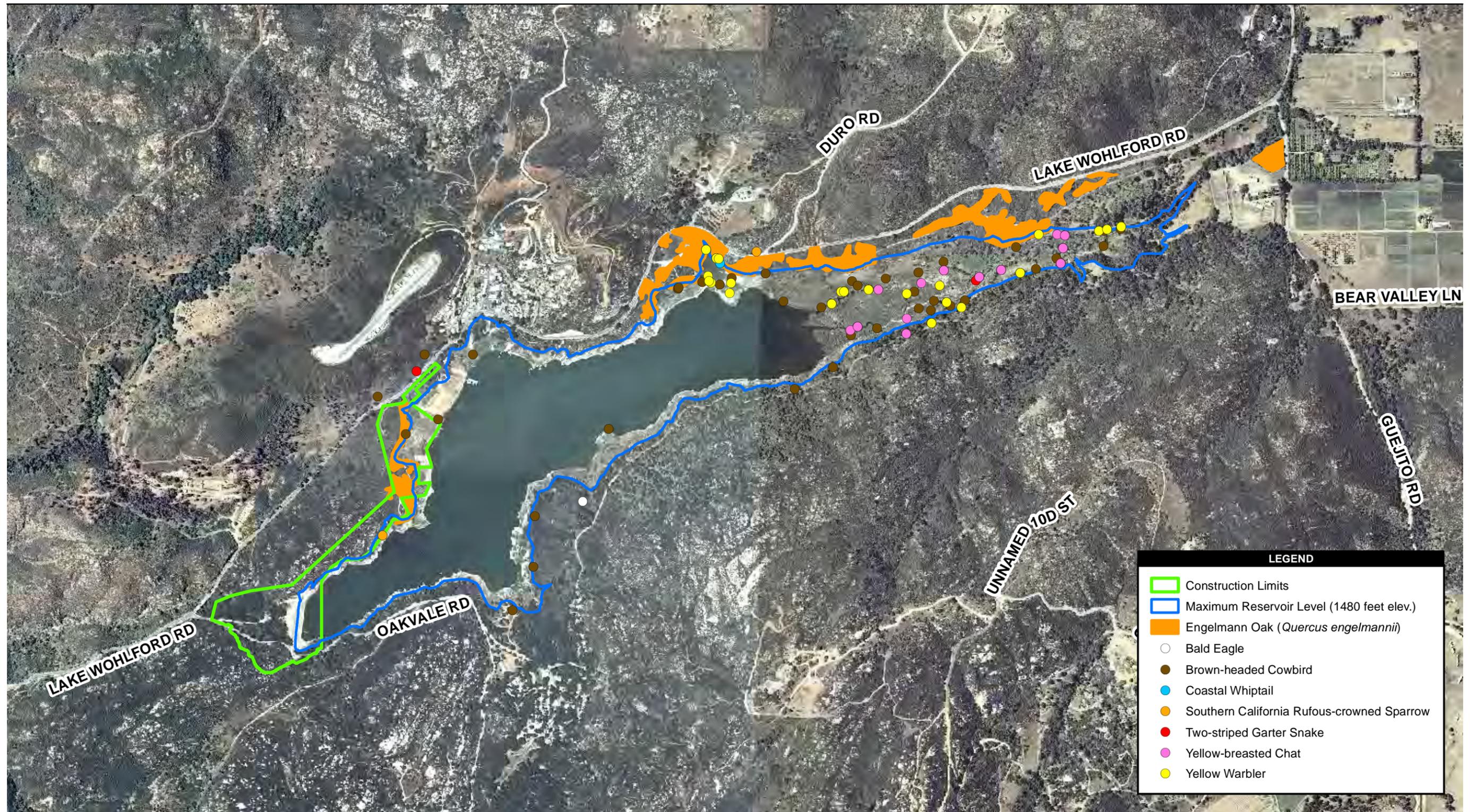
- bald eagle (*Haliaeetus leucocephalus*), endangered species per CESA, CDFW Fully Protected species, protected under federal Bald and Golden Eagle Protection Act
- Cooper's hawk (*Accipiter cooperii*), CDFW Watch List species
- southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), CDFW Watch List species
- yellow warbler (*Dendroica petechia brewsteri*), CDFW Species of Special Concern
- yellow-breasted chat (*Icteria virens*), CDFW Species of Special Concern
- pallid bat (*Antrozous pallidus*), nonlisted CDFW Species of Special Concern
- western mastiff bat (*Eumops perotis californicus*), nonlisted CDFW Species of Special Concern
- least Bell's vireo (*Vireo bellii pusillus*), endangered species per federal ESA and CESA

The locations of the sensitive wildlife species observations within the BSA during 2013 surveys are shown in Figure 3.3-4. Locations of sensitive wildlife species observations within the respective protocol survey areas during the 2017 surveys are shown in Figure 3.3-4a.

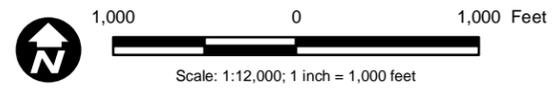
In addition to special-status species listed above, several non-special-status bird species were detected that are subject to the federal Migratory Bird Treaty Act (MBTA).

Wildlife Corridors

Water impounded within Lake Wohlford represents a high-value resource to wildlife species, and the presence of undeveloped land within and adjacent to the BSA makes the area important

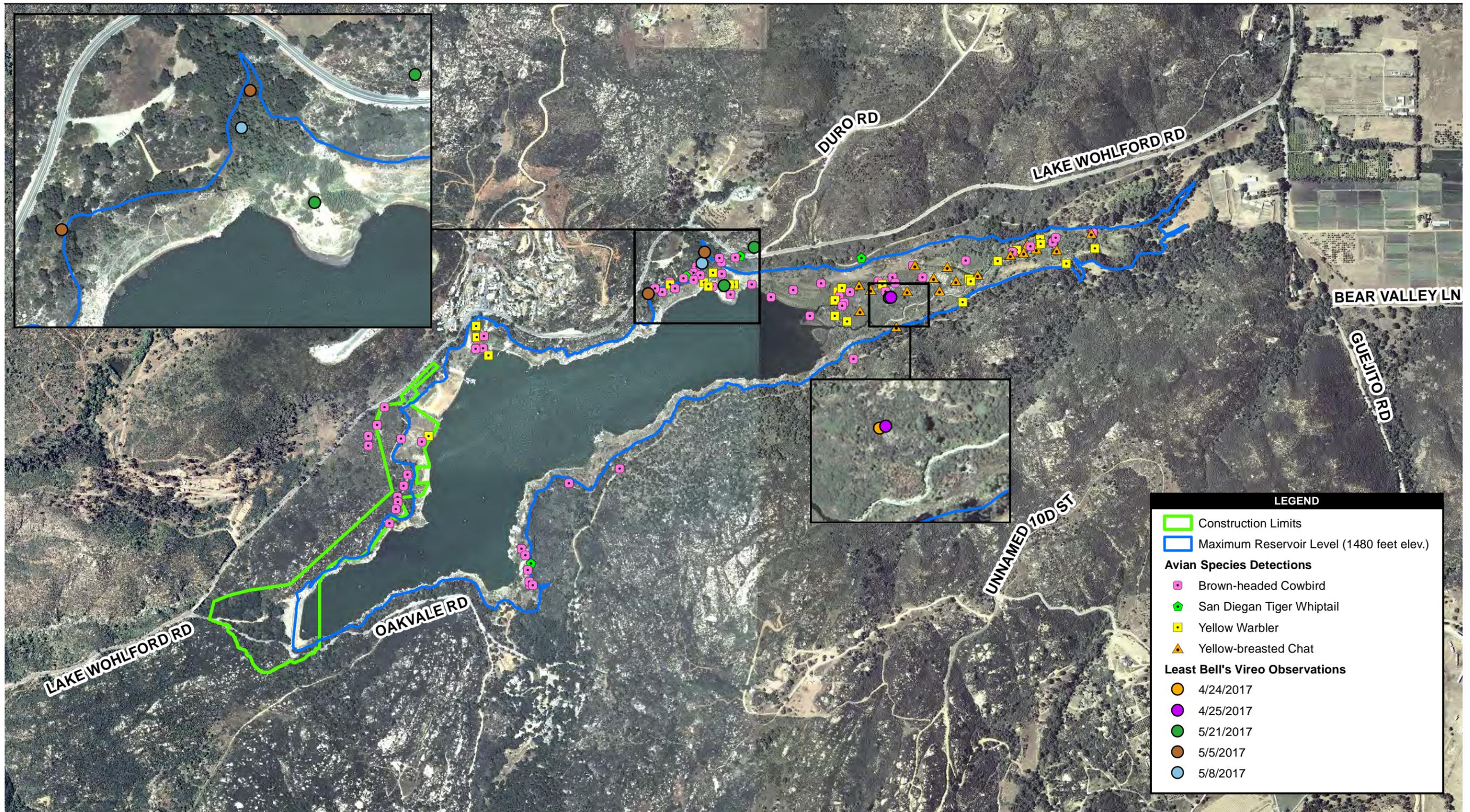


Source: AECOM 2014



LEGEND	
	Construction Limits
	Maximum Reservoir Level (1480 feet elev.)
	Engelmann Oak (<i>Quercus engelmannii</i>)
	Bald Eagle
	Brown-headed Cowbird
	Coastal Whiptail
	Southern California Rufous-crowned Sparrow
	Two-striped Garter Snake
	Yellow-breasted Chat
	Yellow Warbler

Figure 3.3-4
Sensitive Biological Resources with the BSA



Source: SanGIS 2012; Black & Veatch 2014; AECOM 2017



Figure 3.3-4a
2017 Avian Survey Results

to local wildlife movement. In general, wildlife species are likely to use habitat in the BSA for movements related to home range activities (foraging for food and water, defending territories, searching for mates, breeding, and cover). Movement would likely be concentrated in the riparian and wetland habitat because these areas may provide greater foraging opportunities and cover.

Regulatory Setting

Federal Regulations

Federal Endangered Species Act

Congress passed the federal ESA (16 United States Code [U.S.C.] 1531 et seq.) in 1973 to protect species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range, including all regulations made public pursuant to that act. ESA provides for the protection, recovery, and conservation of fish, wildlife, and plants that have been federally listed as threatened or endangered. ESA prohibits the take, harm, or harassment of, species listed as threatened or endangered by USFWS or the National Marine Fisheries Service.

Bald and Golden Eagle Protection Act

The federal Bald and Golden Eagle Protection Act of 1940, with multiple amendments, provides for protection of the golden eagle nationwide by prohibiting the taking of eagles, including their parts, nests, or eggs. The act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” This act is relevant to the project because bald eagles are known to forage in the area. The portion of the act most relevant to this project is “disturb.” “Disturb” is defined in the Bald and Golden Eagle Protection Act as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.”

Clean Water Act of 1972

The Clean Water Act (CWA) is the primary federal law dealing with surface water quality control and protection of beneficial uses of the nation’s waters, including lakes, rivers, aquifers, and coastal areas. Section 404 of the CWA establishes a permit program, administered by USACE, regulating discharge of dredged or fill materials into waters of the U.S., including

wetlands. Activities in waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. CWA Section 404 permits are issued by USACE. Pursuant to Section 401 of the CWA, RWQCB certifies that any discharge into jurisdictional waters of the U.S. will comply with state water quality standards. RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

Migratory Bird Treaty Act

The MBTA (16 USC Sections 703–712) makes it unlawful to take or possess migratory birds, except as permitted by USFWS. The MBTA protects all migratory bird, their eggs, their body parts, or their nests. “Take” under the MBTA is defined “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” protected birds (50 Code of Federal Regulations [CFR] 10.12). The current list of species protected by the MBTA includes several hundred species. Nearly all native birds in the San Diego region are considered migratory. No permit is issued under the MBTA.

Executive Order 11990 – Protection of Wetlands

Executive Order (EO) 11990 is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. EO 11990 requires that when a construction project involves wetlands, a finding must be made by the federal agency that there is no practicable alternative to such construction, and that the proposed action includes all practicable measures to minimize impacts to wetlands resulting from such use.

State Regulations

California Endangered Species Act of 1970

CESA was established by CDFW in Sections 2050 through 2068 of the California Fish and Game Code. CESA provides for the conservation, protection, restoration, and enhancement of any state endangered or threatened species and its habitat while allowing for the lawful take of such species provided that the take is incidental, minimized, fully mitigated for with adequate funding and does not jeopardize the continued existence of the listed species. The requirements of an application for incidental take under CESA are described in Section 2081 of the California Fish and Wildlife Code. Incidental take of state-listed species may be authorized if an applicant submits an approved plan that minimizes and “fully mitigates” the impacts of the take.

California Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning Act takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity by the state, and numerous private and public partners. A Natural Community Conservation Plan (NCCP) identifies and provides for the regional or areawide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity through an agreement between CDFW and the local jurisdiction.

California Fish and Game Code

Section 1600. Pursuant to Section 1600 et seq. of the California Fish and Game Code, CDFW is authorized to regulate any activity that would alter the flow, bed, channel, or bank of streams and lakes. Jurisdictional waters of the state include the channel, bed, or bank of a lake, river, or stream. Riparian habitats do not always have identifiable hydric soils, or clear evidence of wetland hydrology as defined by USACE. Therefore, CDFW wetland boundaries often include, but extend beyond, USACE wetland boundaries. Jurisdictional boundaries under California Fish and Game Code Section 1600–1616 (CDFW’s Lake and Streambed Alteration Program) may encompass an area that is greater than that under the jurisdiction of the CWA Section 404. Therefore, jurisdictional waters of the state include jurisdictional waters of the U.S.; federal and state jurisdictions do overlap, but would remain distinct for regulatory administration and permitting purposes.

Section 3503. Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. This statute does not provide for the issuance of any type of incidental take permit.

Fully Protected Species. Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take of fully protected species.

Porter-Cologne Water Quality Control Act of 1969

Pursuant to Section 13000 et seq. of the California Water Code (Porter-Cologne Water Quality Control Act), RWQCB is authorized to regulate activity that would result in discharges of waste and fill material into waters of the state, including “isolated” waters and wetlands. Waters of the state include any surface or groundwater within the boundaries of the state (California Water Code Section 13050[e]).

Local Regulations

City of Escondido General Plan, Resource Conservation Element

The Resource Conservation Element's purpose is to identify biologically important open space areas and establish polices for developing a comprehensive system that includes natural areas in concert with the NCCP as well as existing and planned park and trail recreational amenities (City of Escondido 2012a).

Policies most relevant to the project are listed in the Biological and Open Space Resources Section:

Biological and Open Space Resources Policy 1.6: Preserve and protect significant wetlands, riparian, and woodland habitats as well as rare, threatened or endangered plants and animals and their habitats through avoidance. If avoidance is not possible, require mitigation of resources either on- or off-site at ratios consistent with State and federal regulations, and in coordination with those agencies having jurisdiction over such resources.

Biological and Open Space Resources Policy 1.7: Require that a qualified professional conduct a survey for proposed development projects located in areas potentially containing significant biological resources to determine their presence and significance. This shall address any flora or fauna of rare and/or endangered status, declining species, species and habitat types of unique or limited distribution, and/or visually prominent vegetation.

Additionally applicable policies are listed in the Water Resources and Quality Section:

Water Resources and Quality Policy 6.2: Protect the surface water resources in the city including Lake Wohlford, Dixon Lake, Lake Hodges, Escondido Creek, and other waterways.

Water Resources and Quality Policy 6.6: Control encroachments into wetlands and designated floodways to protect the community's water resources.

Water Resources and Quality Policy 6.7: Prohibit development in the areas around Lake Wohlford, Dixon Lake, or Lake Hodges that would detract from their use as watershed areas or as visual and recreational amenities.

County of San Diego Biological Mitigation Ordinance

The BMO is the implementing ordinance for the Multiple Species Conservation Program County Subarea Plan and pertains to discretionary actions of the County. This project is not a discretionary action of the County, but the BMO is used in this EIR to assess the project's habitat impacts and identify habitat-based mitigation (see discussion under Biological Study Area portion of Section 3.3.1). The BMO assigns habitat a tier according to their ecological value, and assigns mitigation ratios to those tiers, which are lower if mitigation occurs inside a Biological Core and Linkage Area (BCLA) and higher if mitigation occurs outside a BCLA.

3.3.2 Significance Criteria

The guidelines used for the determination of significance for biological resources impacts are based on City guidelines. The effects of a project on biological resources would be considered significant if the project would do the following:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Project impacts can be considered direct or indirect, and permanent or temporary, as defined below.

Direct: Direct impacts are caused by the project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts could include injury, death, or harassment of listed and/or sensitive species, or destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts to plants can include crushing of adult plants, bulbs, or seeds.

Indirect: Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but are still reasonably foreseeable and attributable to project-related activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation; decreased water quality; soil compaction; increased human activity; and the introduction of invasive wildlife or plants.

Permanent: All impacts that result in the irreversible removal of biological resources are considered permanent. Impacts are considered irreversible if filling activities result in an elevation (gradient) change or an impervious surface. Examples include constructing a building or permanent road on an area containing biological resources.

Temporary: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. For the purpose of this project, if preconstruction contours are maintained and the area can be revegetated in place, then the impact is considered temporary. Examples include the generation of fugitive dust during construction or removing vegetation and then allowing the natural vegetation to recolonize the impact area.

3.3.3 Impact Analysis

This section addresses project-related impacts on sensitive biological resources. For purposes of this CEQA analysis, impacts are considered direct and permanent where vegetation will be cleared during construction and replaced by a permanent facility or feature, including the replacement dam and downstream infrastructure, the Oakvale Road excavation and road realignment, and the access road. Impacts are considered direct and temporary in areas that will be disturbed by project construction activity, but where revegetation will occur as part of the project. Temporary indirect impacts would occur in the 500-foot buffer surrounding the construction LOD as a result of construction activity. Indirect impacts would occur as a result of reestablishing the reservoir to its prior condition and subject to occasional elevation and receding of water levels.

Criterion 1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Oakvale Road Realignment

Plant Species

No sensitive plant species were observed within the Oakvale Road realignment project area during the general and rare plant surveys. Thus, no significant direct or indirect adverse effects to sensitive or special-status plant species would occur during this aspect of the project.

Wildlife Species

No special-status wildlife species were observed within the Oakvale Road impact area during surveys conducted for the project. The Oakvale Road portion of the project area was not included in any of the USFWS protocol bird surveys performed for the project due to lack of appropriate habitat. No bird nests were observed in the Oakvale Road project area. One individual bald eagle, which is listed as endangered pursuant to CESA, was observed flying overhead along the edge of the reservoir approximately 0.6 mile northeast of the Oakvale Road project area. Eagles that nest in Ramona are known to visit Lake Wohlford to fish but are not known to nest in the vicinity of Lake Wohlford.

Although no special-status bird species were identified in the Oakvale Road impact area during project biological resources surveys, significant direct and indirect impacts on listed bird species and other bird species protected by the federal MBTA may occur if their nests are established in the impact area prior to initiating construction activities. These species may include the state-listed endangered bald eagle, which is also protected under the federal Bald and Golden Eagle Protection Act. If nests are established in the Oakvale Road impact area prior to construction, this aspect of the project could result in direct construction-related impacts to birds in the form of habitat destruction, and potentially death, injury, or harassment of nesting birds, their eggs, and their young. Indirect impacts would potentially result from construction noise affecting breeding activity in nests established adjacent to the limits of disturbance. Additionally, use of lighting during nighttime construction could disrupt species in adjacent habitat or cause increased predation rates. Indirect impacts from these construction-related activities would be temporary, as these impacts would end with cessation of project construction. Potential direct and indirect impacts to special-status species and birds protected by the MBTA would be considered significant (**Impact BIO-1**) and warrant mitigation, as discussed below in Section 3.3.4.

Direct impacts on special-status reptiles and mammals are not anticipated as a result of this phase of the project because none were observed in the vicinity of the proposed construction area during project surveys. Therefore, this impact would be less than significant.

Replacement Dam and Access Road

Plant Species

One special-status plant species, Engelmann oak, was identified in the LOD for this phase of the project. Based on the current LOD, approximately 2.36 acres of Engelmann oak woodland are located in the anticipated disturbance area for the staging yard and east portion of the access road, as shown in Figure 3.3-3. Engelmann oaks exist in the area of the LOD that is anticipated to be cleared for the batch plant and along the portion of existing trail that would be improved for the access road. Removal of Engelmann oaks would be considered a significant impact (**Impact BIO-2**) and warrants mitigation, as discussed below in Section 3.3.4. Mitigation for Engelmann oaks removed for project construction would be provided by the habitat-based mitigation for this vegetation community, as discussed below under Criterion 2. Additional mitigation is identified in Section 3.3.4 under Impact BIO-2 to limit the amount of Engelmann oaks cleared for project construction, which may reduce the actual acreage subject to direct impact and acreage-based mitigation.

As shown in Figure 3.3-3, there are Engelmann oaks just outside the LOD that are not anticipated to be cleared for project construction. These individuals are on the fringes of the populations that would be cleared, and are located both upslope and downslope of the proposed construction area. Accordingly, the project may result in indirect impacts on these special-status plant species during construction. Grading has the potential to create airborne dust, sedimentation, and erosion that would affect these species. Construction-generated fugitive dust can adversely affect plants by reducing the rates of metabolic processes such as photosynthesis and respiration. Runoff, sedimentation, and erosion can adversely impact plant populations by damaging individuals or by altering site conditions so as to favor other species, including exotic nonnatives, that could competitively displace native plants. Construction activity adjacent to sensitive plant communities is a significant impact, as addressed further under Criterion 2.

Wildlife Species

Coastal sage scrub areas in the LOD, in the vicinity of the access road and staging yard, were identified as suitable habitat for CAGN and were included in the USFWS protocol survey area for this species, as shown in Figure 3.3-4. CAGN were not documented during ~~this survey~~the protocol surveys for this species conducted during the 2013 and 2017 seasons. Therefore, this

habitat is not considered occupied, and the project would not result in an impact on occupied CAGN habitat.

An individual rufous-crowned sparrow, a CDFW Watch List species, was observed in the LOD, south of the proposed access road alignment during protocol-level CAGN surveys. Suitable nesting/breeding habitat for rufous-crowned sparrow is present in the construction LOD. The project would result in a direct impact on habitat for this species by removing Diegan coastal sage scrub in the LOD. Cooper's hawks were observed during project surveys in riparian habitat on the eastern side of the reservoir, but not in the LOD. Cooper's hawks are known to nest in oak woodlands, and suitable habitat for Cooper's hawk is located in the LOD, including in the dam construction area and the staging yard site. The project would result in a direct impact on habitat for this species by removing oak woodland. These habitat-based impacts are addressed below under Criterion 2, and habitat-based mitigation for that impact is addressed in Section 3.3.4. Potential direct and indirect impacts on individuals, nests, and breeding activity on these species is the same impact previously identified as Impact BIO-1 discussed above for the Oakvale Road component of the project, and would require implementation of Mitigation Measure BIO-1.1. With incorporation of these mitigation measures, the project's impact on rufous-crowned sparrow and Cooper's hawk would be reduced to a less than significant level.

Although bald eagle, a state-listed endangered species, was documented at Lake Wohlford, its known roosting area at the reservoir is on the south side and outside of the construction LOD, and there are no known nesting locations in the BSA; therefore, no significant direct impact to bald eagle is anticipated. Project-related construction activities may occur when bald eagles are present at the reservoir, but construction would be limited to the west/northwest end of the reservoir, leaving the vast majority of fishing territory around the reservoir available for eagle use. The project's impact on bald eagle would be less than significant.

Similar to the Oakvale Road realignment, the access road and dam construction phase has the potential to result in direct and indirect construction-related impacts to birds subject to MBTA. Direct impacts to birds protected by the MBTA for this phase of the project are the same as those identified for the Oakvale Road component (Impact BIO-1), which is addressed above.

The pallid bat and the western mastiff bat are considered CDFW Species of Special Concern at roosting sites. These two species of bats were detected flying and foraging within the BSA, but they were not documented roosting within the LOD, and it is anticipated that these species do not roost within the BSA. Therefore, the project's impact on pallid bat and western mastiff bat would be less than significant.

Restoration of Water Levels

Plant Species

Engelmann oak woodland is identified along the northern fringes of the maximum inundation. The oaks in the maximum inundation area are part of populations located farther north. After the replacement dam is built, the reservoir would return to its prior state and be subject to seasonal and temporal fluctuation in water levels. Oak roots, particularly Engelmann oaks, are adversely affected by constantly saturated soil. If the reservoir reaches its maximum level, the roots of some Engelmann oaks would become submerged, but this full extent of inundation would be rare and, based on historic data provided above in Figure 2-2, would be short term. Furthermore, these oaks in this part of the reservoir were subject to similar conditions prior to the mandatory drawdown. After completion of the project, reservoir levels would continue their seasonal and temporal fluctuation, reverting to pre-drawdown conditions. Therefore, restoration of water levels would have a less than significant impact on special-status plant species.

Wildlife Species

Certain areas of the coastal Coastal-sage scrub in the maximum inundation area was-were identified as suitable habitat for CAGN and was-were included in the USFWS protocol survey area for this species, as shown in Figure 3.3-48 of Appendix C for the 2013 survey, and in Figure 3 of Appendix C-1 for the 2017 survey. CAGN were not documented during this survey the protocol surveys for this species conducted during the 2013 and 2017 seasons. Therefore, this habitat is not considered occupied, and the project would not result in an impact on occupied CAGN habitat.

Certain areas of the riparian Riparian-habitat in the maximum inundation area was-were identified as suitable habitat for LBV and SWFL and was-were included in the USFWS protocol survey area for these species, as shown in Figure 3.3-48 of Appendix C for the 2013 survey, and in Figure 3 of Appendix C-1 for the 2017 survey. In accordance with the current USFWS survey protocol, the project site was surveyed five times for SWFL and eight times for LBV. LBV and SWFL were not documented during this the 2013 survey, and SWFL was again not documented during the 2017 update. One LBV pair was detected during three of the early 2017 survey visits, but was not detected in the final four survey visits occurring in June and July. This pair was observed shifting locations during the early survey visits, apparently investigating areas to determine an ideal nesting site, but no nests were observed. Once the pair could no longer be detected during the subsequent visits, it was reasonably concluded that they had ultimately moved outside the survey area to nest.

Suitable habitats for CAGN and SWFL within the BSA were concluded to be unoccupied. AECOM concluded in the 45-day report that the suitable LBV habitat in the BSA is generally too open to be ideal for LBV breeding. Therefore, this habitat is not considered occupied, and the project would not result in an impact on occupied LBV or SWFL habitat. Cowbird observations were noted during LBV and SWFL surveys, since presence of this nest parasite can often indicate a negative influence on breeding success by LBV and SWFL.

Cooper's hawks were observed in the riparian and oak woodland habitat in the maximum inundation area and are also potentially breeding on-site. Yellow warblers and yellow-breasted chats were found in the riparian habitat present in the maximum inundation area and are potentially breeding on-site. After the replacement dam is built, the reservoir would return to its condition prior to the mandatory drawdown and be subject to seasonal and temporal fluctuation in water levels. Riparian habitat would occasionally be flooded and then uncovered when the water recedes. This does not represent a change in conditions from before the drawdown, and the project would not result in a significant impact these nonlisted bird species.

Criterion 2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

Sensitive natural communities for purposes of this analysis are those habitat types identified as Tier I, II, or III in the BMO, as described above in Section 3.3.1, and wetlands communities under jurisdiction of USACE, RWQCB, and CDFW. Impacts on these communities are described below.

Oakvale Road Realignment; Replacement Dam and Access Road

The project would clear existing habitat within the LOD to create areas suitable for construction work. Permanent direct impacts would occur where vegetation would be removed within the construction LOD and replaced with a permanent feature such as the dam and its appurtenant structures, the access road, and the graded slope adjacent to Oakvale Road. Where vegetation is removed from work areas that do not include permanent project features, revegetation would occur on-site, as conditions allow. Cleared areas would include the Oakvale Road excavation, the construction zone west of the existing dam, the slope northeast of the existing dam for construction of the access road, and the batch plant area in the staging yard.

Table 3.3-3 provides a summary of potential direct impacts that would occur to vegetation communities, including sensitive and riparian habitats and other cover types within the LOD.

**Table 3.3-3
Direct Impacts to Vegetation Communities and
Cover Types within the Limits of Disturbance**

Vegetation Community	Sensitive Habitat	Impacts within the LOD (acres)
Riparian and Wetlands (jurisdictional waters)		
Lakeshore	Yes	1.25
Open Water	Yes	2.12
Southern Willow Scrub	Yes	0.41
Subtotal Riparian and Wetlands		3.78
Uplands		
Engelmann Oak Woodland	Yes	2.36
Coast Live Oak Woodland	Yes	8.01
Diegan Coastal Sage Scrub	Yes	4.31
Nonnative Grassland	Yes	2.60
Southern Mixed Chaparral	Yes	8.58
Subtotal Uplands		25.86
Other Cover Types		
Urban/Developed	No	4.00
Subtotal Other Cover Types		4.00
Total Acres		33.64

As shown in Table 3.3-3, project implementation within the LOD would result in direct, permanent impacts to seven sensitive vegetation communities including 1.25 acres of lakeshore, 0.41 acre of southern willow scrub, 2.36 acres of Engelmann oak woodland, 8.01 acres of coast live oak woodland, 4.31 acres of Diegan coastal sage scrub, 2.60 acres of nonnative grassland, and 8.58 acres of southern mixed chaparral. As noted in the Oakvale Road MND, that component of the project would result in impacts on two sensitive vegetation communities: coast live oak woodland (1.71 acres) and chaparral (1.52 acres). The remaining project impacts listed above are related to dam and access road construction. Direct impacts from removal or disturbance of sensitive habitat are a significant impact (**Impact BIO-3**), and mitigation is listed in Section 3.3.4. An exception to this is open water impacts, which are not considered significant because this habitat type would be fully replaced on-site by open water habitat after completion of construction, and because open water acreage would expand as the existing dam is removed and this area is inundated. Therefore, no mitigation would be provided for open water impacts in the LOD.

As outlined in the discussion of potential temporary indirect impacts to Engelmann oak woodland adjacent to the LOD, construction work elsewhere in the LOD would be conducted adjacent to sensitive communities and result in similar indirect impacts as described for Engelmann oak woodland, including dust, sedimentation, and erosion. Construction activity adjacent to sensitive plant communities is a significant impact (**Impact BIO-4**), and mitigation is provided in Section 3.3.4.

Restoration of Water Levels

In addition to these direct habitat impacts due to construction, the project would inundate habitat around the rim of the reservoir as water levels increase following project construction. In this sense, the reservoir would return to conditions prior to the drawdown. Although the 1,480-foot elevation is shown for information purposes in this report, the reservoir would not necessarily be filled immediately after construction; rather, water levels would be subject to seasonal and temporal fluctuations depending on the availability of water. Habitat along the fringe of the reservoir would be inundated and then exposed again as these cycles continue, and habitat communities will continue to change over time. As the reservoir level increases and the area of inundation expands, similar wetland communities are expected to reform along the edge of the expanded water level, but this habitat type-conversion is a complicated process and the ultimate composition and distribution of vegetation adjacent to the new shoreline cannot be predicted with certainty. Because this represents a return to conditions at Lake Wohlford prior to the mandatory drawdown, habitat inundation is a less than significant impact and does not warrant off-site mitigation.

Criterion 3: Would the project have a substantial adverse effect on federally protected wetlands through direct removal, filling, hydrological interruption, or other means?

Oakvale Road Realignment

No wetlands occur on the project site for the Oakvale Road realignment components of the project. Thus, no adverse direct or indirect impacts would result to federally protected wetlands due to the Oakvale Road realignment.

Replacement Dam and Access Road

Potential impacts to jurisdictional waters in the LOD as a result of dam construction are listed in Table 3.3-4. Some of these impacts overlap with the impacts to similar vegetation community impacts noted in Table 3.3-3, but represent only the jurisdictional wetlands and waters as delineated in the field. The primary impact on wetlands occurs in the downstream construction area, where the project would result in impacts on approximately 6.10 acres of coast live oak woodland, which is jurisdictional exclusively of CDFW. Some of these impacts would be permanent due to the placement of new downstream facilities and would be considered permanent loss of jurisdictional waters of the state (including wetlands). Impacted areas that are cleared for construction staging and access purposes and do not feature permanent structures would be subject to on-site restoration and would be considered temporary. Acreages of permanent and temporary impacts would be solidified during the project's permitting phase.

**Table 3.3-4
Impacts to Waters of the U.S. and State in the LOD**

Type of Jurisdictional Waters	Type of Habitat (Holland 1986; Oberbauer et al. 2008)	Impacts (Acres/Linear Feet) ¹
Waters of the U.S. (USACE, RWQCB, and CDFW)		
Wetland	Southern Willow Scrub	0.04
Other Waters	Open Water	2.12
Other Waters	Lakeshore	0.44
Other Waters	Urban/Developed (Dam)	0.48
<i>Subtotal Waters of the U.S.</i>		<i>3.08</i>
Waters of the State, Exclusively CDFW		
Riparian Canopy	Southern Willow Scrub	0.37
Riparian Canopy	Coast Live Oak Woodland	6.10
Riparian Canopy	Engelmann Oak Woodland	0.37
Other Waters	Lakeshore	0.73
<i>Subtotal Waters of the State, Exclusively CDFW</i>		<i>7.57</i>
Grand Total Jurisdictional Waters		10.65

¹ Jurisdictional waters acreage of the BSA was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

Impacts to riparian habitats, wetlands, and jurisdictional waters within the LOD shall require the following permits by regulatory federal and state agencies: (1) USACE CWA Section 404 permit for placement of dredged or fill material within waters of the U.S.; (2) RWQCB CWA Section 401 state water quality certification/waiver for an action that may result in degradation of waters of the state; and (3) CDFW California Fish and Game Code Section 1602 agreement for alteration of a streambed.

The project's potential to have direct impacts on wetlands is significant (**Impact BIO-5**), and mitigation is provided below in Section 3.3.4.

Potential indirect impacts to the jurisdictional waters surrounding the LOD would occur as a result of construction activity, which would occur within and upslope from jurisdictional areas, including Escondido Creek in the downstream construction area and the reservoir in the access road construction area and staging yard. Potential temporary, indirect impacts would occur as a result of grading activities creating airborne dust and potentially off-site erosion and sedimentation. Water quality in jurisdictional areas can be adversely affected by surface water runoff and sedimentation during construction. The use of petroleum products (e.g., fuels, oils, and lubricants) and erosion of cleared land during construction could potentially impact surface water in the reservoir. Temporary retention basins have been incorporated into the project to capture construction runoff before it can flow into jurisdictional areas, which will limit the project's impact on these jurisdictional features. The project's potential to have an indirect impact on jurisdictional waters is a significant impact (**Impact BIO-6**), and mitigation is provided below in Section 3.3.4.

Restoration of Water Levels

After the replacement dam is built, the reservoir would return to its prior state and be subject to seasonal and temporal fluctuation in water levels. Some wetlands established at the fringe of the reservoir would become submerged and others would be subject to the occasional inundation and exposure as the water level rises and recedes, similar to conditions before the mandatory drawdown. This would likely lead to a gradual shifting in wetland habitat types, primarily in the reservoir's long eastern arm. There would be no loss of jurisdictional wetland habitat from returning the reservoir to this prior condition, but rather wetlands types would be converted to other wetlands types. Because this represents a return to the reservoir's prior conditions, inundation of jurisdictional wetlands outside the LOD would not be a significant impact subject to mitigation.

***Criterion 4:* Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Oakvale Road Realignment; Replacement Dam and Access Road

Local wildlife movement in the immediate vicinity of the new dam construction may experience temporarily direct impacts due to construction activities. Construction would entail activity in a location currently open and available for wildlife to use and move through. Construction would include installation of fencing in some areas, presence of people and equipment, and noise generation, all of which could interfere with or discourage the movement of wildlife through the immediate area. However, these activities would be generally located along the fringe of a currently developed area, including the existing dam and areas of human activity such as the marina and Lake Wohlford Road. The open nature of the area beyond the LOD would allow for continued movement of wildlife through the area and would not substantially restrict access to the reservoir or associated habitats. For these reasons, potential temporary impacts to wildlife movement due to project construction would be considered not adverse and less than significant.

The proposed project may result in a minor permanent impact on local wildlife movement due to the expanded footprint of the developed area downstream of the dam and by the associated realignment of Oakvale Road. However, these project areas do not represent large-scale migratory wildlife corridors, so this impact would be less than significant. Lake Wohlford is not habitat for migratory fish and the BSA does not support any wildlife nursery sites, so there would be no impact with respect to those features. The Oakvale Road project would realign an existing feature that local wildlife must currently traverse, and realignment would not add a new hazard or barrier to wildlife movement. Permanent direct impacts to wildlife movement would be less than significant.

Restoration of Water Levels

Raising the water level within the reservoir would inundate riparian and wetland vegetation along the fringe of the reservoir, which would have a minor effect on localized wildlife movement for resident species. Areas beyond the inundation limits would continue to be available for wildlife movement, so this aspect of the project would not result in a significant impact. From the perspective of regional wildlife movement, the project is anticipated to provide a moderate increase to regional corridor values as the surface area of the reservoir increases. For these reasons, the project's impacts on wildlife movement would be less than significant.

Criterion 5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Oakvale Road Realignment; Replacement Dam and Access Road; Restoration of Water Levels

Project compliance with the City General Plan policies listed above in the Regulatory Setting section is discussed below.

Biological and Open Space Resources Policy 1.6: The project proposes an important infrastructure project located in an area that features significant biological resources, as described throughout this section. Full avoidance of these resources is not possible, so the project will entail mitigation at ratios stated in the BMO. The project complies with this General Plan policy.

Biological and Open Space Resources Policy 1.7: Biological resources surveys of the BSA were conducted by qualified professionals, who identified sensitive resources requiring mitigation. The project complies with this General Plan policy.

Water Resources and Quality Policy 6.2: The project is intended in part to return the City's water storage capacity at Lake Wohlford. The project complies with this General Plan policy.

Water Resources and Quality Policy 6.6: The project would entail construction impacts in wetlands that are necessary to implement this water resources infrastructure project, which would protect the community's water resources. The project complies with this General Plan policy.

Water Resources and Quality Policy 6.7: The project does not propose development around Lake Wohlford. The project complies with this General Plan policy.

The project would not conflict with any of the applicable local policies protecting biological resources; therefore, this impact would be less than significant.

The discussion provided under the Oakvale Road realignment would also be applicable to the restoration of water levels in the reservoir. The restoration of water to historic levels would require that some sensitive resources, including mature Engelmann oak trees and emergent wetlands, be inundated and the resource lost. However, the project would provide mitigation at the appropriate ratios to reduce the effects. Thus, the restoration of water levels would not conflict with any local policies or ordinances protecting biological resources and the impact would not be adverse and would be less than significant.

Criterion 6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Oakvale Road Realignment; Replacement Dam and Access Road; Restoration of Water Levels

The project is within the boundaries of the draft NCMSCP and the draft City of Escondido Subarea Plan. However, because both plans are in draft form and have not been adopted and implemented, mitigation for impacts would not be covered by these plans. In the absence of an approved subarea plan or Habitat Loss Permit process in the City, this project's impacts on sensitive habitat and its relationship to the City's habitat conservation planning efforts are addressed through the CEQA process. Adequate mitigation per the County's BMO is required for significant biological resource impacts and in coordination with the wildlife agencies as part of this CEQA document. Thus, the Oakvale Road realignment would not conflict with the provisions of an adopted habitat conservation plan; NCCP; or other approved local, regional, or state habitat conservation plan and would result in a not adverse and less than significant impact.

3.3.4 Significant Impacts and Mitigation Measures

Impact BIO-1: The project would potentially result in direct and indirect impacts on special-status bird species or species covered by the MBTA if nests are established in the project area prior to construction (Criterion 1).

Mitigation Measure BIO-1.1: If vegetation clearing or earthwork is proposed to commence within the bird breeding season (February 15 through September 15), a qualified biologist shall conduct pre-construction nest surveys of the project site and a 500-foot buffer to identify any listed species or bird breeding activity in the vicinity. The pre-construction survey shall be performed within 2 weeks of the start of construction

activity. If the pre-construction surveys identify active nests or bird-breeding activity within the 500-foot buffer, a qualified biologist shall prepare a nest avoidance plan and, if necessary, a noise attenuation plan, to identify site-specific measures that shall be incorporated into the project to reduce construction-related impacts on the applicable bird species.

Mitigation Measure BIO-1.2: All construction lighting shall be directed onto the construction work area and away from adjacent habitat. Light shields shall be used to reduce the extent of illumination into adjoining areas.

Impact BIO-2: The project would entail direct impacts on Engelmann oaks, a special-status plant species, due to clearing for construction work (Criterion 1).

Mitigation Measure BIO-2.1: Engelmann oaks outside the limits of disturbance will be identified as Environmentally Sensitive Areas on project plans. A qualified biologist will attend a pre-construction field meeting with the construction contractor to identify Engelmann oaks and refine the limits of disturbance to avoid unneeded clearing in areas supporting Engelmann oaks. Orange construction fencing will be installed around the locations of Engelmann oaks outside the agreed-upon limits of disturbance. Fencing shall remain in place until construction is complete to avoid inadvertent disturbance of sensitive resources.

Impact BIO-3: Project construction would result in direct impacts on sensitive vegetation communities due to clearing for construction (Criterion 2).

Mitigation Measure BIO-3.1: The City shall ensure that an on-site habitat restoration plan covering all areas disturbed during construction is prepared in consultation with a qualified restoration ecologist. The restoration plan will delineate all temporary impact areas subject to habitat restoration and establish standards for application of hydroseed and installation of container plants, as appropriate. The restoration plan shall include an appropriate native species planting palette to blend in with the existing and surrounding habitats. No nonnative species shall be incorporated into the restoration plan. Acreage of impacts that can be restored on-site after completion of the project will not be subject to acquisition of off-site mitigation listed in Mitigation Measures BIO-3.3 through BIO-3.9.

Mitigation Measure BIO-3.2: A restoration maintenance and monitoring plan shall be prepared for the project by a qualified restoration ecologist outlining yearly success criteria and remedial measures in case the mitigation effort falls short of the success criteria.

Because there is no approved subarea plan governing the project's impacts, the City proposes to mitigate for this project's permanent habitat impacts pursuant to the County's BMO, which assigns mitigation ratios based on habitat tiers and allows a lower ratio if mitigation occurs inside a BCLA and a higher ratio if mitigation occurs outside a BCLA. For permanent impacts that cannot be mitigated by on-site restoration, the City plans to mitigate for project impacts by purchasing credits at the City's Daley Ranch Conservation Bank, which would be considered a BCLA and would qualify for the lower mitigation ratios listed in the BMO. Mitigation acreage for each habitat type impacted by project construction is discussed below.

Table 3.3-5 lists the mitigation acreages at ratios in accordance with the San Diego County BMO. Open water impacts do not warrant off-site mitigation because they would be fully replaced on-site by open water habitat after completion of construction, and because open water acreage would expand as the existing dam is removed and this area is inundated. Mitigation measures specific to habitat types are provided below.

**Table 3.3-5
Mitigation for Permanent Direct Impacts to
Sensitive Vegetation Communities (acres)**

Vegetation Community (BMO Tier)	Total Impacted Acreage	Mitigation Ratio¹	Mitigated Inside BCLA	Mitigated Outside BCLA
Riparian and Wetlands (jurisdictional waters)				
Lakeshore (Tier I)	1.25	2:1 to 3:1	2.50	3.75
Open Water (Tier I)	2.12	N/A ²	0.00	0.00
Southern Willow Scrub (Tier I)	0.41	2:1 to 3:1	0.82	1.23
Subtotal Wetlands	3.78	-	3.32	4.98
Uplands				
Engelmann Oak Woodland (Tier I)	2.36	2:1 to 3:1	4.72	7.08
Coast Live Oak Woodland (Tier I)	8.01	2:1 to 3:1	16.02	24.03
Diegan Coastal Sage Scrub (Tier II)	4.31	1.5:1 to 2:1	6.47	8.62
Nonnative Grassland (Tier I)	2.60	1:1 to 1.5:1	2.60	3.90
Southern Mixed Chaparral (Tier III)	8.58	1:1 to 1.5:1	8.58	12.87
Subtotal Uplands	25.86	-	38.39	56.50
Other Cover Types				
Urban/Developed	4.00 ³	N/A	-	-
Total	33.64	-	41.71	61.48

All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

¹ Lower ratio applies where mitigation occurs inside a BCLA; higher ratio where outside a BCLA.

² Open water impacts do not warrant off-site mitigation because they would be fully replaced on-site by open water habitat after completion of construction.

³ Urban/Developed not included in impacted acreage totals.

Mitigation Measure BIO-3.3: The City shall mitigate for impacts to 1.25 acres of lakeshore within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage

shall occur at a 2:1 ratio if the mitigation area is within the BCLA, totaling 2.50 acres, or at 3:1 if the mitigation area is outside the BCLA, totaling 3.75 acres.

Mitigation Measure BIO-3.4: The City shall mitigate for impacts to 0.41 acre of southern willow scrub within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage shall occur at a 2:1 ratio if the mitigation area is within the BCLA, totaling 0.82 acre, or at 3:1 if the mitigation area is outside the BCLA, totaling 1.23 acres.

Mitigation Measure BIO-3.5: The City shall mitigate for impacts to 2.36 acres of Engelmann oak woodland within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage shall occur at a 2:1 ratio if the mitigation area is within the BCLA, totaling 4.72 acres, or at 3:1 if the mitigation area is outside the BCLA, totaling 7.08 acres.

Mitigation Measure BIO-3.6: The City shall mitigate for impacts to 8.01 acres of coast live oak woodland within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage shall occur at a 2:1 ratio if the mitigation area is within the BCLA, totaling 16.02 acres, or at 3:1 if the mitigation area is outside the BCLA, totaling 24.03 acres.

Mitigation Measure BIO-3.7: The City shall mitigate for impacts to 4.31 acres of Diegan coastal sage scrub within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage shall occur at a 1.5:1 ratio if the mitigation area is within the BCLA, totaling 6.47 acres, or at 2:1 if the mitigation area is outside the BCLA, totaling 8.62 acres.

Mitigation Measure BIO-3.8: The City shall mitigate for impacts to 2.60 acres of nonnative grassland within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage shall occur at a 1:1 ratio if the mitigation area is within the BCLA, totaling 2.60 acres, or at 1.5:1 if the mitigation area is outside the BCLA, totaling 3.90 acres.

Mitigation Measure BIO-3.9: The City shall mitigate for impacts to 8.58 acres of southern mixed chaparral within the LOD through creation and enhancement of suitable habitat or acquisition of suitable habitat credits at an approved mitigation bank. Mitigation acreage shall occur at a 1:1 ratio if the mitigation area is within the BCLA, totaling 8.58 acres, or at 1.5:1 if the mitigation area is outside the BCLA, totaling 12.87 acres.

Mitigation Measure BIO-3.10: To avoid incidental loss of sensitive habitat types during construction activities, Environmentally Sensitive Area fencing shall be installed along the limits of disturbance prior to the start of construction. In addition, grading limits shall be flagged or fenced, and grading shall not occur beyond this flagging/fencing. Location of fencing shall be confirmed by a qualified biological monitor. Construction crews shall be made fully aware of this boundary.

Impact BIO-4: The project would result in indirect impacts to sensitive vegetation communities adjacent to construction work areas (Criterion 2).

In addition to the measures stated below specific to Impact BIO-4, Mitigation Measure BIO-3.10, stated above, would be implemented to ensure sensitive areas are identified in the field and flagged or fenced to prevent unauthorized access. Additional measures are listed below.

Mitigation Measure BIO-4.1: Storage of soil or fill material from the project site shall be within the LOD or developed areas. The contractor shall delineate stockpile areas on the grading plans for review by the City.

Mitigation Measure BIO-4.2: If additional access routes are determined necessary, these areas shall be surveyed for biological resources prior to their use and, if any sensitive resources are identified, determine appropriate avoidance and minimization measures. The contractor shall clearly mark all access routes (i.e., flagged and/or staked) prior to the onset of construction.

Mitigation Measure BIO-4.3: The contractor shall periodically monitor the work area to ensure that construction-related activities do not generate excessive amounts of fugitive dust. Water shall be applied to the construction right-of-way, dirt roads, trenches, spoil piles, and other areas where ground disturbance has taken place to minimize dust emissions and topsoil erosion.

Impact BIO-5: The project would result in direct impacts on jurisdictional wetlands and waters due to clearing for construction (Criterion 3).

The vegetation communities that make up the jurisdictional wetlands and waters are included in the habitat-based mitigation listed pursuant to Mitigation Measures BIO-3.3, BIO-3.4, BIO-3.5, and BIO-3.6; this mitigation adequately accounts for the project's direct impacts on wetlands and waters. No additional habitat-based mitigation for jurisdictional wetlands is warranted.

Impact BIO-6: Project construction would occur within and adjacent to delineated wetlands and waters and potentially result in indirect impacts to jurisdictional areas (Criterion 3).

Mitigation Measure BIO-6.1: A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared to comply with RWQCB requirements. The SWPPP shall identify the design features and best management practices (BMPs) that will be used to manage drainage-related issues (e.g., erosion and sedimentation) during construction. Erosion-control measures shall be regularly checked by the contractor, the project biologist, and/or City staff. Specific BMP plans shall be reviewed by the City and the project biologist, and be modified, if necessary, prior to implementation. Fencing and erosion-control measures of all project areas shall be inspected a minimum of once per week.

Mitigation Measure BIO-6.2: Staging areas and project activities, including equipment access and disposal or temporary placement of excess fill, shall be prohibited within off-site drainages.

With the implementation of Mitigation Measures BIO-1.1 through BIO-6.2, as described above, all impacts related to biological resources would be reduced to less than significant.

3.4 CULTURAL RESOURCES

The cultural resources section of this EIR focuses on the identification of archaeological and historical sites, or cultural resources, within the cultural resources area of potential effects (APE) associated with the project. The project APE encompasses environment resources that may be directly or indirectly affected by the dam replacement, realignment of Oakvale Road, and the raised water levels following dam replacement. The APE was established as the physical limits of both temporary and permanent project activities, including adjacent areas that may contain potentially historic built environment resources in immediate range of project activities.

The cultural resources analysis in this EIR is based on information and evaluation provided in two technical reports: *Historic Resources Survey Report for the Lake Wohlford Dam Replacement Project* (AECOM 2014c) and *Cultural Resources Inventory for the Lake Wohlford Dam Replacement Project* (Affinis 2013). The technical reports are provided as Appendix E and Appendix F, respectively. Appendix B of the Affinis report is a confidential appendix that is unavailable to the public due to the sensitivity of the information it presents. This confidential appendix can only be viewed by authorized individuals and is omitted from the publically accessible version of this EIR.

3.4.1 Existing Conditions

The project and APE are located in Township 11 South, Range 1 West, Sections 32–34, with portions in Township 12 South, Range 1 West, Sections 4 and 5, on the USGS 7.5' Valley Center and Rodriguez Mountain quadrangles. Information on existing conditions with respect to historic resources and archaeological resources is discussed below, beginning with a discussion of the methodology followed to identify and document existing resources.

Methodology

The presence and, in the case of historical resources, the significance of cultural resources within the APE was determined based on archival research and pedestrian surveys completed as part of the two technical reports prepared for the project.

The historical resources survey methodology included review of historic USGS topographic maps and historic photographs, review of a records search results from the South Coastal Information Center (SCIC) at San Diego State University, a general reconnaissance survey of the project vicinity, and an intensive survey of the APE. In addition to the SCIC research, AECOM staff also reviewed archival collections at the following repositories:

- California Department of Water Resources Division of Safety and Dams, Sacramento
- City of Escondido Utilities Department, Escondido
- Escondido History Center, Escondido
- San Diego History Center, San Diego
- Water Resources Collections and Archives at the University of California, Riverside

Lake Wohlford Dam was assessed for eligibility for inclusion in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

For listing in the NRHP or to be considered a historic property, a resource must meet one or more of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of our history;
- It is associated with the lives of persons significant in our past;
- It embodies 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; or,
- It has yielded, or may be likely to yield, information important in prehistory or history.

For listing in the CRHR or to be considered a historical resource under CEQA, a resource must be significant at the local, state, or national level under one or more of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to local, California, or national history;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

For the archaeological resources survey, Affinis conducted an SCIC records search in June 2013. The Native American Heritage Commission (NAHC) was contacted for a Sacred Lands File

Check and a list of contacts representing Native American tribes who may be interested in the project. Affinis sent letters to interested parties identified by the NAHC regarding the project.

The fieldwork for the archaeological survey was conducted in July and August 2013. To the extent feasible, the survey area was walked using parallel transects spaced 10 meters to 15 meters apart. In some areas, steep topography or very dense vegetation required different transect spacing or forays into areas of dense brush and granitic boulder outcrops. A significant portion of the property had very poor visibility while the remaining survey area had fair to good visibility. Some portions of the survey area could not be accessed, due to steep topography and thick brush. One area was not surveyed, as it was too marshy to walk, and a portion of the survey area adjacent to the Escondido Fish and Game Rifle Range could not be accessed due to active shooting. Efforts were made to contact the range to arrange access but were met with no return communication. The Historic Resources Survey Report did not assess archaeological resources within the project survey area for their NRHP or CRHR eligibility because the project was designed to avoid all identified resources.³

Cultural Setting

The following discussion of the project's cultural setting is summarized from lengthier discussions in the two cultural resources reports. Additional detail is available in Appendix E and Appendix F.

The earliest accepted archaeological manifestation of Native Americans in the San Diego area is the San Dieguito complex, dating to approximately 10,000 years ago. The material culture of the San Dieguito complex consists primarily of scrapers, scraper planes, choppers, large blades, and large projectile points. Malcolm Rogers considered crescentic stones to be characteristic of the San Dieguito complex as well (Rogers 1939). Tools and debitage made of fine-grained green metavolcanic material, locally known as felsite, were found at many sites that Rogers identified as San Dieguito.

The Lake Wohlford area generally lies between two ethnographic territories. The Cuyamaca complex in southern San Diego County is the archaeological manifestation of the forebears of the Kumeyaay people. The San Luis Rey complex, in the northern part of the county, represents the predecessors of the ethnohistoric Luiseño. Agua Hedionda Creek is often described as the division between the territories of the Luiseño and the Kumeyaay people, although various historic and ethnographic sources present somewhat varying maps and descriptions of traditional

³ For purposes of CEQA analysis, this EIR takes the conservative assumption that these resources are eligible for listing and therefore are considered significant resources. This is not meant as a conclusion that the resources are actually eligible for listing, but only an assumption used in this analysis.

territories and use areas. The Lake Wohlford project is in a transitional area between the ethnographic territory of the Kumeyaay and the Luiseño people.

The beginning of the historic period in the San Diego area is generally given as 1769. It was that year that the Royal Presidio and the first Mission San Diego were founded on a hill overlooking Mission Valley. The Spanish Colonial period lasted until 1821 and was characterized by religious and military institutions bringing Spanish culture to the area and attempting to convert the Native American population to Christianity. Mission San Diego was the first mission founded in Southern California. Mission San Luis Rey, in Oceanside, was founded in 1798. *Asistencias* (chapels) were established at Pala (1816) and Santa Ysabel (1818).

In 1843, the project area became part of Rancho El Rincon del Diablo, which was granted to Juan Bautista Alvarado by the Mexican government. In 1860, this rancho was acquired by the Wolfskill brothers, who planted vineyards and raised sheep. In 1883, much of the area was purchased by the Escondido Company, a group of Stockton speculators that subdivided the property 3 years later. In 1886, a 12,000-acre tract was purchased by a group of investors that formed the Escondido Land and Town Company, which platted the City of Escondido. Aggressive land promotions during the latter half of the 1880s drew many people to the area, and although growth had slowed considerably during the 1890s because of economic instability, settlers continued to arrive in the back country, establishing small farms and ranches. Farming and ranching continued to be the major focus of Escondido's economy until the 1960s.

History of Lake Wohlford Dam

The City of Escondido incorporated in 1888, and the Escondido Irrigation District (EID) was formed a year later, encompassing 13,000 acres. In 1894, EID decided to create a dam in order to centralize its water storage and expand its capacity. The Escondido Dam (also the Bear Valley Dam and, later, Lake Wohlford Dam) was the first rockfill dam to be constructed in California for irrigation storage (Schuyler 1901, as referenced in AECOM 2014c). The distribution system that channeled water from the dam to EID customers consisted of 0.5 mile of canyon, and 31.5 miles of pipes, ditches, flumes, and lateral channels for irrigation. When completed in August 1895, the capacity of the EID system was not sufficient for the projected irrigation needs of the district, and it was estimated that it supplied less than a quarter of what the whole district would eventually require. As a result of this inadequacy to meet demand, plans to raise the height of the dam and to enlarge the reservoir were quickly conceived (Schuyler 1901, as referenced in AECOM 2014c).

The overwhelming cost of the system led EID stockholders to elect a new board of trustees in 1895, including banker Alvin Webster (A.W.) Wohlford. Disgruntled over the cost burden,

landowners refused to pay their assessments. Without payments for the water supply to finance the operation of the system, the reservoir dried up by 1898. In 1904, a fire destroyed parts of the flume, crippling operations. Already on the brink of insolvency before the fire, EID was dissolved in 1905 through a settlement with the bondholders involving foreclosure of its lands and contributions raised by A.W. Wohlford and the Bank of Escondido (McGrew 1988; Ryan and Ryan 1971, as referenced in AECOM 2014c). The Escondido Mutual Water Company (EMWC) formed in 1905 as the successor to EID to assume its remaining assets, with A.W. Wohlford serving on the board of directors.

In 1914, EMWC began a new project to provide electricity to the growing population of Escondido. Orchestrated by A.W. Wohlford, EMWC acquired the City's failing utility company and reached an agreement with the Rincon tribe to permit the construction of a new power plant downstream from the Escondido Dam, referred to as the Bear Valley power plant. This addition to the system further increased the demand for an increase in the water supply, and renewed attention to rehabilitating the failing distribution system.

EMWC signed a contract with San Diego County Water Company in 1922 to purchase water from Lake Henshaw and distribute it through the EMWC's distribution system. Availability of this water created a need to raise the Escondido Dam to expand its reservoir's storage capacity. As a result, EMWC implemented a project to increase the height and width of the dam embankment, add a new spillway and outlet tower, and make further improvements to the distribution system. Oakvale Road was created as a new maintenance roadway to the dam's left abutment. Construction was completed in 1924, and the reservoir was renamed Lake Wohlford on August 18, 1924, in honor of A.W. Wohlford, who had passed away earlier that year.

The City acquired EMWC in 1970 and joined the municipal system with EMWC and Vista Irrigation District (VID) systems, sharing the water supply delivery system. The City and VID made major improvements to the water supply system, including the construction of Dixon Lake, the Dixon Dam, and a major treatment plant in the 1970s.

Records Search Results

The Affinis records search obtained from SCIC covered the project APE and a surrounding 1-mile radius (referred to as the study area). The records search shows 28 cultural resources studies conducted within a 1-mile radius of the project. None of these previous studies cover the project survey area. The records search identified that 28 cultural resources studies were conducted within a 1-mile radius of the project and a total of 94 previously recorded cultural resources lie within the study area, including archaeological sites, isolates, and historic resources.

A total of 73 archaeological sites lie within the 1-mile records search radius for the project, including 68 with a prehistoric component and 12 with a historic component (seven have both historic and prehistoric elements). Twelve of the sites (16%) are recorded as occupation or habitation sites (including temporary camps) with bedrock milling features, lithic debitage and tools, and ground stone artifacts; two of these occupation sites also have a historic component. Two of the habitation sites are recorded as having middens. While bedrock milling features are present at 51 of the sites (70%), 30 sites (41%) are composed solely of bedrock milling features. Five of the sites (7%) are recorded as lithic scatters, with primarily quartz as the material base. Rock rings or other rock features (other than milling features) were noted at seven sites. One site is recorded as a pot cache with no other artifacts observed. Five of the sites are solely historic in nature; four of these include historic structures and artifacts, and one is a historic trash dump. Fourteen of the previously recorded sites were within the boundaries of the Affinis pedestrian survey area. Seventeen isolates were previously recorded within the designated records search boundary for the project. Additional details on these records search results are provided in Table 1 of Appendix F.

AECOM's SCIC records search was conducted in the same radius and around the same time, so the results were the same as described above. AECOM noted that no previously recorded historical resources were identified through the SCIC records search within the APE or 1-mile buffer.

Archaeological Pedestrian Survey Results

Seven isolates and five previously unrecorded archaeological sites were identified during the field survey for archaeological resources. Site records for these resources were completed and submitted to SCIC. All 14 previously recorded sites within the survey area were identified during the survey; updated site records were prepared and submitted to SCIC. Archaeological sites, including milling features and lithic scatters, were identified in the vicinity of the access road alignment and staging yard, as well as around the rim of the reservoir at its current water level elevation. Details on these resources are discussed in Appendix F.

Assembly Bill 52 Cultural Resources Consultation

Assembly Bill (AB) 52, which was enacted in September 2014, requires Native American consultation on projects subject to CEQA. The Native American consultation conducted by Affinis in preparation of the Cultural Resources Inventory Report occurred prior to the advent of AB 52. In conformance with this new law, the City requested a list of tribal contacts for the project from NAHC and notified tribal representatives of the project and EIR. On November 24,

2015, the City mailed letters to the three responsive tribes: Rincon Band of Luiseño Indians, San Luis Rey Band of Mission Indians, and Soboba Band of Luiseño Indians.

Regulatory Setting

CEQA

Section 15064.5 of the State CEQA Guidelines defines a significant cultural resource as any of the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (PRC SS5024.1, Title 14 CCR, Section 4850 et seq.).
2. A resource included in the local register of historical resources, as defined in section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR, as discussed above.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(i) or 5024.1.

California Assembly Bill 52

Pursuant to AB 52, tribal cultural resources must be considered under CEQA. "Tribal cultural resources" are defined as (1) sites, features, places cultural landscapes, sacred places and objects

with cultural value to a California Native American tribe” that are included in the state register of historical resources or a local register of historical resources, or that are determined to be eligible for inclusion in the state register; or (2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

City of Escondido General Plan

For resources that fall within City jurisdiction, the prevailing guidelines are the City’s Cultural Policies F1.1 and F1.5, which state that historic and cultural resources will be considered through the environmental review process based on an assessment in compliance with appropriate ordinances and regulations.

3.4.2 Significance Criteria

The significance criteria for this project’s cultural resource impacts are based on CEQA Appendix G Guidelines.

The effects of a project on aesthetics would be considered significant if the project would do the following:

1. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines.
2. The project causes a substantial adverse change in the significance of an historical resource as defined in Section 15064.5 of the CEQA Guidelines.
3. The project disturbs any human remains, including those interred outside of formal cemeteries.

Definitions of significance for cultural resources are described above in the Regulatory Setting portion of Section 3.4.1.

3.4.3 Impact Analysis

The project represents a source of potential direct and indirect impacts to cultural resources. A discussion of the potential impacts is provided below. Measures to address these potential impacts are presented in Section 3.4.4.

Criterion 1: Would the project cause a substantial adverse change in the significance of an archaeological resource?

Oakvale Road Realignment

The Affinis report identified one archaeological resource in the vicinity of the Oakvale Road project site, which was previously collected and curated. No additional resources were identified during the pedestrian surveys. Therefore, this component of the project would not result in any impacts on known archaeological resources.

The past discovery of resources in the vicinity of the Oakvale Road project impact area indicates sensitivity for the potential presence of archaeological resources. Additionally, extensive vegetation led to limited ground visibility observed during project surveys, and archaeological resources could potentially exist on the project site. Resources that may be present in the project area could be affected by project-related earth disturbance. Therefore, impacts to unknown cultural resources from the Oakvale Road Realignment would be significant (Impact CR-1). To address this potential significant impact, the project would incorporate Mitigation Measure CR-1.1 through 1.10, as listed below in Section 3.4.4.

Replacement Dam and Access Road

Several archaeological resources were identified near the access road alignment and staging yard. These resources were not evaluated for eligibility in the NRHP and CRHR, so they are assumed eligible for purposes of this CEQA analysis. To prevent direct impacts on known resources, the access road and staging yard were configured to avoid them, based on GIS data provided by Affinis. All known cultural resources in the access road and staging yard area have been avoided through project design. However, even with the designed avoidance of all known cultural resources, there is the potential for accidental disturbance or damage to these known resources due to the proximity of their location to active construction areas. Thus, the potential for inadvertent adverse impact to known cultural resources in the vicinity of the access road and staging yard is significant. To address this potentially significant impact, the project would incorporate Mitigation Measure CR-2.1, as listed below in Section 3.4.4.

As with the Oakvale Road component of the project, dam and access road construction would occur in an area where past discovery of cultural resources indicates sensitivity for the potential presence of archaeological resources. Resources that may be present in the dam construction area and access road construction area could be affected by initial project-related earth disturbance. Thus, impacts to known and unknown cultural resources from the replacement dam and access road would be significant (Impact CR-2). Implementation of Mitigation Measures CR-1.1 through 1.10 and CR-2.1 would be required.

Reestablishment of Reservoir Level

Raising the reservoir level would reinundate archaeological sites identified at the rim of the existing water level that were submerged before the water level in the dam was reduced in 2007. The reinundation of these resources would not disturb or destroy the resources, and would remove them from public access. Therefore, this component of the project would not result in a significant impact, and no mitigation is required.

The area that will be inundated with the refilling of the dam was submerged for decades prior to the drawdown of water levels in 2007. Therefore, there would be no impacts to cultural resources from this component of the project.

Criterion 2. Would the project cause a substantial adverse change in the significance of an historical resource?

Oakvale Road Realignment

There are no known historical resources located in the impact area for the Oakvale Road project. As discussed above in the History of Lake Wohlford portion of Section 3.4.1, Oakvale Road was constructed as part of the dam raise project in 1924, but the road is an active public facility maintained by the County and it has been repaved several times over the decades. The road lacks the integrity required to be considered a significant historical resource. Thus, the Oakvale Road realignment would not have the potential to cause an adverse change in the significance of a historic resource.

Because there are no historic resources in the vicinity, construction of the Oakvale Road realignment would not have the potential to disturb historic resources. Therefore, no impacts to historic resources would result from the Oakvale Road realignment, and no mitigation is required.

Replacement Dam and Access Road

Lake Wohlford Dam was identified as a resource over 50 years old that required further evaluation for listing eligibility, which was conducted for the AECOM Historic Resources Survey Report (Appendix E). The Historic Resources Survey Report concluded the resource is not eligible.

Because the area that this particular dam and infrastructure serviced was limited, and the concept for a dam to service an irrigation district was not unique regionally after the passage of the

Wright Act in 1889, it does not achieve the level of significance necessary to meet NRHP Criterion A or CRHR Criterion 1. Although associated with A.W. Wohlford, arguably an important historical person in Escondido history, the dam itself is not directly illustrative of Wohlford's efforts to financially revive the EID's failing system, establish the EMWC, and work on funding for the system upgrades completed in 1924; therefore, the dam does not meet NRHP Criterion B or CRHR Criterion 2. The rockfill dam was a common type and is not considered an important example of a specific type of construction or the work of a master, potentially J.D. Schuyler, to be eligible under NRHP Criterion C or CRHR Criterion 3. The dam is well documented and, as a resource, is not likely to yield further information pertaining to history. It is not eligible under NRHP Criterion D or CRHR Criterion 4. The dam as it appears currently does not reflect the 1895 design or period of significance. The resource is not eligible for the NRHP or CRHR, and is not considered a historic property for the purposes of NEPA or the National Historic Preservation Act, or a historical resource for the purposes of CEQA. No other historic resources are located in the APE and thus this component of the project would not have the potential to disturb other historic resources.

Because the Lake Wohlford Dam is not a significant historic resource and is well documented, the partial demolition of the structure as part of the project would be a less than significant impact, and no mitigation is required.

Reestablishment of Reservoir Level

There are no historic resources located in the maximum inundation area. No resources would be submerged when the reservoir level is raised; there would be no impact and no mitigation is required.

Criterion 3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

Oakvale Road Realignment; Replacement Dam and Access Road

There are no known human remains that would be affected by project construction. In the event of an unexpected discovery of human remains during any phase of construction, the project contractor would be required to adhere to California Health and Safety Code Section 7050(b). Project activities in the vicinity of the discovery would be temporarily halted and the San Diego County Coroner would be contacted. If the remains were determined to be of Native American origin, the Most Likely Descendent, as identified by the NAHC, would be contacted to determine proper treatment and disposition of the remains. Proper adherence to these regulations would ensure that the project's impact would be less than significant.

Reestablishment of Reservoir Level

Elevating the reservoir level would not have the potential to uncover or otherwise disturb human remains; therefore, there would be no impact.

3.4.4 Significant Impacts and Mitigation Measures

Impact CR-1: The past discovery of resources in the vicinity of the Oakvale Road project impact area indicates sensitivity for the potential presence of unknown archaeological resources (Criterion 1).

Mitigation Measure CR-1.1: The City of Escondido Planning Division (“City”) recommends the applicant enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with a tribe that is traditionally and culturally affiliated with the Project Location (“TCA Tribe”) prior to issuance of a grading permit. The purposes of the agreement are (1) to provide the applicant with clear expectations regarding tribal cultural resources, and (2) to formalize protocols and procedures between the Applicant/Owner and the TCA Tribe for the protection and treatment of, including but not limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground disturbing activities.

Mitigation Measure CR-1.2: Prior to issuance of a grading permit, the applicant shall provide written verification to the City that a qualified archaeologist and a Native American monitor associated with a TCA Tribe have been retained to implement the monitoring program. The archaeologist shall be responsible for coordinating with the Native American monitor. This verification shall be presented to the City in a letter from the project archaeologist that confirms the selected Native American monitor is associated with a TCA Tribe. The City, prior to any pre-construction meeting, shall approve all persons involved in the monitoring program.

Mitigation Measure CR-1.3: The qualified archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program.

Mitigation Measure CR-1.4: During the initial grubbing, site grading, excavation or disturbance of the ground surface, the qualified archaeologist and the Native American monitor shall be on site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of tribal cultural resources as defined in California Public Resources Code Section 21074. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring.

Mitigation Measure CR-1.5: In the event that previously unidentified tribal cultural resources are discovered, the qualified archaeologist and the Native American monitor, shall have the authority to temporarily divert or temporarily halt ground disturbance operation in the area of discovery to allow for the evaluation of potentially significant cultural resources. Isolates and clearly non-significant deposits shall be minimally documented in the field and collected so the monitored grading can proceed.

Mitigation Measure CR-1.6: If a potentially significant tribal cultural resource is discovered, the archaeologist shall notify the City of said discovery. The qualified archaeologist, in consultation with the City, the TCA Tribe and the Native American monitor, shall determine the significance of the discovered resource. A recommendation for the tribal cultural resource's treatment and disposition shall be made by the qualified archaeologist in consultation with the TCA Tribe and the Native American monitor and be submitted to the City for review and approval.

Mitigation Measure CR-1.7: The avoidance and/or preservation of the significant tribal cultural resource and/or unique archaeological resource must first be considered and evaluated as required by CEQA. Where any significant tribal cultural resources and/or unique archaeological resources have been discovered and avoidance and/or preservation measures are deemed to be infeasible by the City, then a research design and data recovery program to mitigate impacts shall be prepared by the qualified archaeologist (using professional archaeological methods), in consultation with the TCA Tribe and the Native American monitor, and shall be subject to approval by the City. The archaeologist, in consultation with the Native American monitor, shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Before construction activities are allowed to resume in the affected area, the research design and data recovery program activities must be concluded to the satisfaction of the City.

Mitigation Measure CR-1.8: As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98. The Native American remains shall be kept in-situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Native American monitor.

Mitigation Measure CR-1.9: If the qualified archaeologist elects to collect any tribal cultural resources, the Native American monitor must be present during any testing or cataloging of those resources. Moreover, if the qualified Archaeologist does not collect the cultural resources that are unearthed during the ground disturbing activities, the Native American monitor, may at their discretion, collect said resources and provide them to the TCA Tribe for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. Any tribal cultural resources collected by the qualified archaeologist shall be repatriated to the TCA Tribe. Should the TCA Tribe or other traditionally and culturally affiliated tribe decline the collection, the collection shall be curated at the San Diego Archaeological Center. All other resources determined by the qualified archaeologist, in consultation with the Native American monitor, to not be tribal cultural resources, shall be curated at the San Diego Archaeological Center.

Mitigation Measure CR-1.10: Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusion of the archaeological monitoring program and any data recovery program on the project site shall be submitted by the qualified archaeologist to the City. The Native American monitor shall be responsible for providing any notes or comments to the qualified archaeologist in a timely manner to be submitted with the report. The report will

include California Department of Parks and Recreation Primary and Archaeological Site Forms for any newly discovered resources.

Impact CR-2: There is potential for accidental disturbance or damage to known and unknown cultural resources in the dam construction area and access road construction area (Criterion 1).

See Mitigation Measures CR-1.1 through 1.10 above.

Mitigation Measure CR-2.1: The following actions shall be taken to ensure avoidance of known cultural resources:

- Existing cultural resource sites shall be designated as Environmentally Sensitive Areas on all construction drawings and the limits of disturbance identified in the drawings shall not overlap with these Environmentally Sensitive Areas.
- Prior to the start of construction, under direction of the project archaeological monitor, orange construction fencing shall be placed around the known cultural resource sites. Fencing shall remain in place until construction is complete to avoid inadvertent disturbance of the site.
- The project archaeological monitor shall provide environmental training to all contractors to educate them on awareness of cultural resources protection requirements.

With the implementation of Mitigation Measures CR-1.1 through 1.10 and CR-2.1, as described above, all impacts related to cultural resources ~~air quality~~ would be reduced to less than significant.

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