

GENERAL BIOLOGICAL ASSESSMENT
FOR THE PROPOSED
JAMBOREE ROAD WIDENING PROJECT



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INTRODUCTION

This General Biological Assessment describes the occurrence and potential occurrence of sensitive biological resources (including sensitive plants, wildlife and habitats) within and adjacent to the area of the proposed Jamboree Road Widening Project (Project). In addition to addressing the sensitive biological resources within the Project limits and adjacent areas, this report will also identify the limits of U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), and California Coastal Commission¹ (CCC) jurisdiction. These biological resources described herein are potentially subject to regulation by several resource agencies, including the USACE, U.S. Fish and Wildlife Service (USFWS), CDFG, Regional Water Quality Control Board (RWQCB), and the CCC. The Project is located between Bristol Street North and Fairchild Road in the cities of Newport Beach and Irvine (Cities), Orange County, California (see Appendix A, Figures 1 and 2).

Baseline biological conditions within the Biological Study Area (BSA) were evaluated for the Project. The BSA is defined as the Project footprint and 200 foot buffer zones, where possible. Biological documentation included plant and wildlife inventories, disturbance factors, and major vegetation communities (See Appendix A, Figure 3). This report addresses potential Project impacts on sensitive biological resources and recommends general measures to mitigate for such impacts.

PROJECT LOCATION AND DESCRIPTION

The Project is located on Jamboree Road between Bristol Street North and Fairchild Road in the cities of Newport Beach and Irvine, Orange County, California. In general, this project involves widening Jamboree Road at the MacArthur Boulevard intersection to accommodate one additional northbound through lane and one additional southbound left turn lane on Jamboree Road.

The Cities retained RBF Consulting to prepare five (5) conceptual alternatives designed to improve the Level of Service (LOS) of traffic at this intersection. According to the City's General Plan, traffic volumes at this intersection are forecasted to increase in the future. Therefore, the LOS will lower to LOS E in a.m. and LOS F in p.m. peak hour. The Cities desire to implement the Project to improve the anticipated LOS to D.

METHODS

Literature Review

Prior to conducting the field survey, UltraSystems reviewed available literature to identify any special status plants, wildlife, or sensitive habitats known from the vicinity of the Project. For purposes of this report, the Project vicinity shall be defined as within 5 miles of the project site and the Project BSA will be defined as the area within a 200 ft buffer zone directly adjacent to the Project's proposed construction limits (this includes material lay down areas, equipment staging areas, and turn around points).

A list of special status species recorded in the vicinity of the study areas was compiled from the CDFG Natural Diversity Database (CNDDDB)² for the USGS³ Newport Beach and Tustin 7.5-minute topographic

¹ The client requested that UltraSystems evaluate the biological resources as presented by the Local Coastal Program of the City of Newport Beach, although State approval of the Local Coastal Program is currently pending.

² CDFG, 2010

³ USGS, 2010

quadrangle. Additional sensitive plant species were derived from the California Native Plant Society's (CNPS)⁴ Electronic Inventory of Rare and Endangered Vascular Plants of California database. Federal register listings, protocols, and species data provided by the USFWS and CDFG were reviewed in conjunction with anticipated federally and state listed species potentially occurring within the Project vicinity. Designated critical habitats for endangered or threatened species were also noted.

Jurisdictional Methodology

USACE Jurisdiction

The methods set forth in the USACE 1987 Wetland Manual (EL, 1987) generally requires that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual provides great detail in methods and allows for varying special conditions, a wetland should normally meet each of the following three criteria:

- (1) More than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the National List of Plant Species that Occur in Wetlands; Reed 1988).
- (2) Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions). Such soils, known as "hydric soils," have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season; and
- (3) Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least 5 percent of the growing season during a normal rainfall year (Note: for most of low-lying southern California, 5 percent of the growing season is equivalent to 18 days).

A Munsell Color Book (2000) was used to determine the hue, value, and chroma of the soil and any mottles that may be present. To determine soil color, a small, moistened portion of soil was placed in the openings behind the color page of a Munsell Color Book to match the soil color to the nearest appropriate color chip. Soils were further evaluated by digging soil pits to a depth of approximately 20 inches within the Delineation Survey Area.

In the absence of wetlands (discussed below), the limits of USACE jurisdiction in non-tidal waters, including intermittent streams, extend to the ordinary high water mark (OHWM).

Drainage feature are classified as either perennial (continuous water flow for 3 months or longer), ephemeral (water flows only during and immediately following rain events), or intermittent (water flows for longer than ephemeral drainages and less than perennial drainages due to water at or near the ground surface). In addition, drainage features were also classified as relatively permanent water (RPW) non-RPW. A RPW drainage flows continuously for greater than three months and a non-RPW is seasonal, flowing less than or equal to three months.

⁴CNPS, 2010

CDFG Jurisdiction

The California Code of Regulations (CCR), CDFG defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFG's definition of "lake" includes "natural lakes or man-made reservoirs." CDFG jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. CDFG Legal Advisor has prepared the following opinion (ESD-CDFG 1994):

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects and riparian vegetation will be treated like natural waterways...
- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses should be treated by [CDFG] as natural waterways...
- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions...

Thus, CDFG jurisdictional limits usually overlap with that of the USACE and extends beyond USACE jurisdiction.

CCC Jurisdiction

Because the Project site is located within the Coastal Zone (See Appendix A, Figure 5) the sites affects on coastal resources needs to be evaluated pursuant to the California Coast Act. Section 30107.5 of the California Coastal Act defines "environmentally sensitive areas" as any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Section 30240 of the California Coastal Act requires that environmentally sensitive habitat areas (ESHA's) be protected against any significant disruption of habitat values.

ESHA's are defined by their ecological importance, including the rarity or function of the habitat, and the habitats sensitivity. Rarity relates to either the natural limited occurrences of the habitat in the region or of the diminishment of what was an extensive habitat due to cumulative losses. Function relates to the importance of the habitat to the ecosystem, such as functioning as a migration corridor for wildlife. Sensitivity relates to the habitat tolerance to disturbance or degradation. In determining whether a habitat area located within the Coastal Zone is an ESHA, the following characteristics needs to be evaluated: (1) The presence of natural communities that have been designated by CDFG as rare; (2) the recorded or potential presence of plant or animal species designated by federal or state law as rare, threatened, or endangered; (3) plant or animal species listed as 1B or 2 species by the California Native Plant Society; (4) the presence of coastal streams; (5) and the degree of habitat integrity and connectivity to other natural areas.

In addition, the California Coastal Act requires the protection of wetlands and is regulated by Section 30233 and Section 30121 defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include salt water marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats and fens". The boundary line between wetland and adjacent uplands is determined by one or more key wetland characteristics and includes hydrology, hydric soils, and hydrophytic vegetation. Whereas, USACE-defined wetlands require the presence of all three parameters to be a wetland, the CCC only requires one of these three parameters. Consequently, CCC ESHA and wetland jurisdiction is likely to overlap with and extend beyond USACE jurisdiction.

Field Survey

A general biological assessment was conducted by UltraSystems biologist Joanna Kipper and jurisdictional delineation specialist Paul Brenner on February 11, 2010 to assess the existing conditions, the potential for sensitive resources to be present within and adjacent to the Project site (construction limits including equipment staging, material lay down areas, and turn around points) and the limits of USACE and CDFG jurisdiction, and CCC-defined wetlands and ESHA's. The assessment included a 100% pedestrian survey of the Project site, plus a 200 foot buffer zone where possible. Binoculars were used to view plants and wildlife where the pedestrian survey was not sufficient to identify biological resources using the unaided eye. Field notes were taken on the general biological conditions of the site with particular focus on sensitive biological habitats and species including related issues of connectivity, native and non-native vegetation, patch size, and habitat fragmentation (See Appendix B. Tables 1 and 2).

The field survey also included the assessment of the limits of USACE and CDFG jurisdiction, and CCC defined ESHA's and wetlands, that are located in closest proximity to the proposed Project. In this pursuit, the bed, bank, and channel and associated riparian vegetation were evaluated pursuant to CDFG and CCC jurisdiction. The OHWM and any potential adjacent USACE-defined wetlands pursuant to USACE jurisdiction were evaluated. Field work included the following: Soil pits were dug and soil chroma was evaluated by use of a Munsell Color Book to evaluate hydric soils, the limits of riparian vegetation and hydrophytic vegetation were identified and recorded onto color aerial and topographic maps. Notes and jurisdictional findings conducted in the field were recorded and depicted on a 100 foot to the inch scaled color aerial photograph. Finally, site photographs and GPS coordinates were taken of the widest possible limits of USACE and CDFG jurisdiction, and CCC-defined ESHA's and wetlands.

A formal jurisdictional delineation was not conducted at the Project site. Instead, this report identifies the jurisdiction located in closest proximity to the proposed Project for the purpose of avoidance. If either USACE or CDFG jurisdiction cannot be avoided by the proposed Project, then a formal jurisdictional delineation needs to be performed followed by appropriate permitting pursuant to Sections 401 and 404 of the Clean Water Act and Sections 1600 *et. seq.* of the California Fish and Game Code.

RESULTS

Literature Review

Sensitive Species

A review of USGS quadrangles adjacent to and inclusive of the Project location determined that twenty-five (25) sensitive species have the potential to occur within five miles of the BSA. Four (4) sensitive wildlife species have a moderate potential to occur within or immediately adjacent to the Project site and may be affected. No sensitive plant species are expected to be affected by the Project.

The Sensitive Species table in Appendix C contains information regarding the twenty-five (25) species known to occur in the BSA vicinity. Species descriptions for sensitive plants are referenced from the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, 2010. Species descriptions for sensitive wildlife are referenced from the CDFG Species Accounts.⁵

The following sensitive wildlife species are those with a moderate or high potential to occur within or immediately adjacent to the Project site and may be directly or indirectly affected by the Project.

⁵ CDFG, 2010

*Sensitive Wildlife***1. Cooper's Hawk (*Accipiter cooperii*)**

Regulatory Status: Cooper's Hawk is a California Species of Special Concern. It is not a State or Federally listed species.

Habitat, Natural History, and Distribution: Cooper's Hawks breed in dense oak woodlands, riparian corridors and coniferous forests. They prefer a dense canopy of mature trees for nest sites. Cooper's Hawks hunt along habitat edges, in open woodlands, and in riparian corridors for medium-sized birds (pigeons) and small mammals (rodents). They can also occur in urban areas where tall mature ornamentals and riparian woodland corridors remain.

Occurrence Potential Moderate: Moderate foraging and roosting habitat suitability is present throughout the BSA. Roosting habitat is present within the large mature woody trees (e.g., Eucalyptus) along Jamboree Rd and MacArthur Blvd. and within the Riparian Scrub, Quail Brush Scrub, and Disturbed habitats southwest of Jamboree Rd and MacArthur Blvd.

2. Least Bell's Vireo (*Vireo bellii pusillus*-LBV)

Regulatory Status: The Least Bell's Vireo (LBV) is a migratory bird species that is a State and federally listed as Endangered.

Habitat, Natural History, and Distribution: This bird is a summer resident of Southern California in low riparian habitat. Typical habitats include dense, low shrubby vegetation, generally early successional stages in riparian area, brushy fields, scrub oak, coastal chaparral, mulefat scrub, and dry washes with willow thickets. It is often found near water in arid regions. It is primarily found within the vicinity of water or dry river beds, at elevations below 6,560 feet. Nests usually occur along margins of understory bushes in or near stands of Willows (*Salix* sp.) or Mule Fat (*Baccharis salicifolia*), or both. Its diet consists mainly of small invertebrates and seeds.

Occurrence Potential Moderate: Moderate habitat suitability is present within the Quail Brush Scrub, Fresh Water Marsh, and Riparian Scrub habitats southwest of Jamboree Road and MacArthur Boulevard.

3. Western Mastiff Bat (*Eumops perotis californicus*)

Regulatory Status: The Western Mastiff Bat is a California Species of Special Concern. It is not a State or Federally Listed Species.

Habitat, Natural History, and Distribution: This species is insectivorous and roost in small colonies (<100) in a variety of sites, including crevices, built structures, trees, and tunnels. It occurs in a variety of natural arid habitat as well including conifer and deciduous woodlands, coastal sage scrub, grassland, and chaparral. This species can forage at night up to 15 miles from their daytime roost site, is active year round at night, and forage up to 6 hrs per night. It emits audible chirps. Nursery sites are established in spring and young are born early summer.

Occurrence Potential Moderate: Moderate foraging and roosting habitat suitability is present within adjacent buildings, ornamental trees (i.e. Palm Trees), and in the two drainage culvert that extends under Jamboree Rd adjacent to the Project site (See Appendix D, Site Photograph 1).

4. Yellow-breasted Chat (*Icteria virens*)

Regulatory Status: This species is a California Species of Special Concern. This species is not a federally listed species.

Habitat, Natural History, and Distribution: This species is a summer resident of southern California in low riparian habitats and commonly is found close to water. It forages and nests in low, dense riparian habitats of mixed willow species and Wild Grape (*Vitis californica*). A recent occurrence is documented in BSA vicinity (< 1 mile SE, 2007)

Occurrence Potential Moderate: This species has a moderate occurrence potential to occur within the Riparian Scrub and Fresh Water Marsh habitats located southwest of Jamboree Road and MacArthur Boulevard.

Critical Habitat

The project site is not within federally designated Critical Habitat for any sensitive species.⁶

Field Surveys

General Site Conditions

On the day of the site visit (February 11, 2010), weather conditions were favorable for conducting the survey. Temperatures ranged from 68 to 74 degrees Fahrenheit and wind speeds ranged from 1.0 to 5.0 miles per hour. Several heavy precipitation events occurred in the weeks leading up to the survey. Evidence of flooding was visible by newly downed vegetation, soil deposits, and debris. Herbaceous annual plant species were germinating and deciduous trees such as Western Sycamores and Willows were exiting their winter dormancy and sprouting new green growth.

Vegetation Communities

Community names and hierarchical structure follows the CDFG List of California Terrestrial Natural Communities (Holland)⁷ as utilized in the CNDDDB. Community descriptions are based on field findings, Sawyer-Keeler Wolfe,⁸ Gray and Bramlet,⁹ and Holland, as appropriate.

1. Developed Lands/Ornamental Landscaping

Developed lands are areas that have been altered by clearing and construction activities, which often support man-made structures, such as houses, sidewalks, buildings, parks, ornamental landscaping, flood control channels, and transportation infrastructure (e.g., paved roads, bridges, and culverts). Ornamental landscaping includes areas where the vegetation is dominated by non-native horticultural plants (Grey and Bramlet 1992). Typically, the species composition consists of introduced trees, shrubs, flowers and turf grass.

The majority of the Project site is Developed lands with Ornamental Landscaping (See Appendix D, Site Photograph 4). Common ornamental species observed include Privet (*Ligustrum* sp.), Canary island Date Palm (*Phoenix canariensis*), and Bermuda Grass (*Cynodon dactylon*).

⁶ USFWS, 2009

⁷ Holland, 1986

⁸ Sawyer-Keeler Wolfe, 1995.

⁹ Gray and Bramlet, 1992

2. Disturbed

Disturbed areas are usually devoid of vegetation (e.g. cleared or graded such as dirt roads or graded slopes) and have a high percentage of non-native weedy species, such as Tocalote (*Centaurea melitensis*), Wild Oat (*Avena fatua*), Mustard (*Brassica* spp.), and Prickly Sow-Thistle (*Sonchus asper*). Native grasses include Salt Grass (*Distichlis spicata*).

This community is present within the natural area down slope and southwest of Jamboree Road and MacArthur Boulevard. This area appears to be maintained free of mature woody vegetation growth regularly through mowing; however a low growing herbaceous layer of weedy annuals persists (See Appendix D, Site Photograph 5).

3. Disturbed Riparian Scrub (Southern Willow Scrub)

Disturbed Riparian Scrub or Southern Willow Scrub is a dense, broad-leafed, winter-deciduous riparian thicket dominated by several *Salix* species, normally scattered with emergent Fremont's Cottonwood (*Populus fremontii*) and Western Sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development.

This community is present within the natural area down slope and southwest of Jamboree Road and MacArthur Boulevard. Arroyo Willow was the dominant native tree species observed with Western Sycamore and Red Willow occurring infrequently. However, much of the Riparian Scrub habitat is disturbed with high volumes of trash, debris, and a number of large mature non-native ornamental tree species including Mexican Fan Palms (*Washingtonia robusta*), Eucalyptus (*Eucalyptus* spp.), Brazilian Pepper Tree (*Schinus terebinthifolius*), Sweet Gum (*Liquidambar styraciflua*), and Avocado (*Persea* sp). Average canopy height is approximately 50 feet. Understory scrub species include Mugwort (*Bacharris douglasiana*) and Giant Creek Nettle (*Urtica dioica* ssp. *Holosericea*) (See Appendix D, Site Photograph 2 and 3).

4. Quail Brush Scrub (Saltbush Scrub)

Quail Brush Scrub consists primarily of scattered to dense areas of Quail Brush (*Atriplex lentiformis*). It typically occurs in lowland areas and along the coast, including Newport Back Bay, Dana Point, and San Clemente. Common native species found within Quail Brush Scrub include Coyote Brush (*Baccharis pilularis*) and Telegraph Weed (*Heterotheca grandiflora*). This community often occurs with non-native Ice Plant species such as *Carpobrotus* sp and *Mesembryanthemum* sp.

Quail Brush borders the natural area southwest Jamboree Road and MacArthur Boulevard and along the chain link fence bordering the on-ramp to the 73 Freeway. A few individual Quail Brush are mix intermittently within the Riparian Scrub (See Appendix D, Site Photograph 2 and 3).

5. Freshwater Marsh

Freshwater Marsh (Coastal Freshwater Marsh) consists of seasonally or permanently flooded, low-lying areas dominated by *Typha* spp. And *Scirpus* spp. Cattail (*Typha* sp.) species are the dominant herb emerging from the water in the Cattail series. Other associated species include Salt Grass and Sedges (*Carex* spp.). Associated herbs are less than 12 feet high and cover can be continuous, intermittent or open.

A small area of this community is present along the southern boundary of the BSA, approximately 200 feet from the limits of construction within the natural area down slope and southwest of Jamboree Road and MacArthur Boulevard.

6. Open Water

Open water often contains a number of phytoplankton species and filamentous blue-green and green algae. In shallow water vascular species including Horned Pond Weed (*Zannichellia palustris*), Water Fern (*Azolla filiculoides*) and Duckweed (*Lemna* sp.) may be found floating on the water surface. This community is present within the natural area adjacent and down slope of MacArthur Boulevard.

Open Water occurs within the natural area southwest Jamboree Road and MacArthur Boulevard. It enters the natural area from an existing subterranean concrete lined drainage culvert down slope of Jamboree Road. The water flows south through the Riparian Scrub and Freshwater Marsh habitats and re-enters a concrete lined subterranean culvert running southeast under MacArthur Boulevard. Aquatic species observed include Water Speedwell (*Veronica anagallis-aquatica*), Seep Monkey Flower, (*Mimulus guttatus*), Water Cress (*Rorippa* sp.), Water Lily (*Nymphaea* sp.) and Duckweed (See Appendix D, Site Photograph 1).

Jurisdictional Limits

This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the USACE, CCC, and CDFG. However, only the USACE, CCC, and CDFG can make a final determination of jurisdictional boundaries. None of the jurisdictions investigated in this report (i.e., USACE, CCC, and CDFG) were identified within the proposed Project limits of construction, as presented by VA Consulting, Inc. in the Concept Plan for Jamboree Road Widening, dated February 11, 2010. However, all three jurisdictions are located within close proximity to the proposed Project in the area located on the south side of Jamboree Road and between McArthur Boulevard and the on-ramp to SR-73 (See Appendix A, Figure 4). All other areas of the Project site do not have any potential to support jurisdiction subject to USACE, CDFG, or the CCC.

1. USACE Jurisdiction

USACE jurisdiction is located within close proximity to the proposed Project in the area located on the south side of Jamboree Road and between McArthur Boulevard and the on-ramp to SR-73 (See Appendix A, Figure 4). All other areas of the Project site do not have any potential to support USACE jurisdiction.

USACE jurisdiction is associated with the unnamed drainage that flows beneath Jamboree Road and outlets on the south side of Jamboree Road, approximately 200 linear feet west of MacArthur Boulevard (see Figure 4 and Appendix D, Photo 1). This drainage courses in a southward direction and enters another culvert which carries flows underneath MacArthur Boulevard and into the Newport Back Bay and subsequently to the Pacific Ocean. On the day of the site visit this drainage contained flowing water from bank to bank and this unnamed drainage appears to carry urban runoff flow daily throughout the year. A drainage with daily flows would be categorized by the USACE as perennial (the USACE requires continuous flow for 3 months or longer to be considered perennial) and as a relatively permanent water (RPW). Given the perennial status and its close proximity to navigable water (i.e., Pacific Ocean), this drainage would likely be considered to be subject to USACE jurisdiction and regulated pursuant to Section 404 of the CWA.

The OHWM of the unnamed drainage extends several feet above the waterline as observed on the day of the site visit to a point at which a watermark can be identified on the concrete culvert (see Appendix D, Photo 1). In addition, an adjacent USACE-defined wetland extends from the banks of this drainage. This wetland contains the three wetland parameters necessary for a USACE-defined wetland including a dominance of hydric vegetation (Arroyo Willow – FACW), hydric soils (gleyed soils with sulfitic odor), and hydrology (this wetland site is located in the floodplain of the unnamed drainage). This wetland extends from the bank of the unnamed drainage to the bottom of the Jamboree Road embankment, and does not extend up the slope toward Jamboree Road (see Figure 4). The Jamboree Road embankment is located out of the floodplain of the drainage and therefore does not have the hydrology or hydric soils to be classified as a USACE-defined wetland. Therefore, USACE jurisdiction does not extend up the Jamboree Road embankment and is not regulated pursuant to Section 404 of the CWA (nor is the embankment regulated by the RWQCB pursuant to Section 401 of the CWA).

2. CDFG Jurisdiction

CDFG jurisdiction is located within close proximity to the proposed Project in the area located on the south side of Jamboree Road and between McArthur Boulevard and the on-ramp to SR-73 (See Appendix A, Figure 4). All other areas of the Project site do not have any potential to support CDFG jurisdiction.

As with USACE jurisdiction, CDFG jurisdiction is also located at the bottom of the slope. However, CDFG jurisdiction extends up the Jamboree Road embankment (See Appendix A, Figure 4). As previously described above, the California Code of Regulations (CCR), CDFG defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." The unnamed drainage has these stream and riparian vegetation characteristics and would likely be regulated by CDFG pursuant to Section 1600 of the California Fish and Game Code. Arroyo Willow trees have taken root adjacent to the unnamed drainage at the bottom of the embankment and their trunks have grown at an angle up the Jamboree Road embankment. Because these trees are dependent on the unnamed drainage for water, this vegetation is considered to be "riparian" and subject to CDFG jurisdiction pursuant to Section 1600 et seq. of the California Fish and Game Code. Therefore, CDFG jurisdiction extends to the limits of the growth of the Arroyo Willow, as depicted in Figure 4 and observed in the Site Photographs in Appendix D (Site Photograph's 2 and 3).

The vegetation located upslope of the Arroyo Willow vegetation (Riparian Scrub) is primarily Quail Brush. However, the vegetation located upslope of the Arroyo Willows are not rooted within the banks or floodplain of the unnamed drainage. This vegetation is not dependent on the drainage for water and is therefore not considered to be riparian vegetation and consequently would not be subject to CDFG jurisdiction (See Appendix D, Site Photograph's 2 and 3).

3. CCC Jurisdiction

CCC jurisdiction is located within close proximity to the proposed Project in the area located on the south side of Jamboree Road and between McArthur Boulevard and the on-ramp to SR-73 (See Appendix A, Figure 4). All other areas of the Project site do not have any potential to support CCC jurisdiction.

CCC-defined Wetland: Section 30121 defines wetlands as lands within the coastal zone which may be covered periodically or permanently with shallow water and includes freshwater marshes. The boundary line between wetland and adjacent uplands is determined by one or more key wetland characteristics and includes hydrology, hydric soils, and hydrophytic vegetation. Therefore, the CCC-defined wetland corresponds to the extent of Arroyo Willows as previously described above for CDFG Jurisdiction and

will not be repeated here. These Arroyo Willows meet the definition of a CCC wetland by virtue of having at least one of the three parameters (i.e., hydrophytic vegetation) required for a CCC-defined wetland.

ESHA: Section 30107.5 defines an environmentally sensitive area (ESHA) as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.” The Riparian Scrub habitat located beyond (and adjacent to) the Project’s limits of construction (See Appendix A, Figure 4) contains native riparian vegetation with the potential to support a variety of sensitive species, including the State and Federally listed Endangered Least Bell’s Vireo. Therefore, the extent of Arroyo Willows as previously described above for CDFG Jurisdiction is also considered the limits of an ESHA. However, the areas located within the Project’s proposed limits of construction and outside of the Riparian Scrub habitats would not be considered ESHAs as they are inconsistent with the definition of an ESHA as described above. Specifically, the area located between the riparian habitat and the edge of the sidewalk is primarily developed, highly disturbed, degraded by human activity, does not serve as migratory pathways, and have limited potential to support Federal or State Endangered or Threatened species.

POTENTIAL BIOLOGICAL IMPACTS

Potential impacts to those biological and jurisdictional resources described above are addressed below. In the subsequent section (Recommended Mitigation Measures), avoidance and minimization measures to reduce Project-related impacts on sensitive biological resources are discussed.

Potential Impact 1: Sensitive Bird Species (Nesting Birds and the Migratory Bird Treaty Act)

The Migratory Bird Treaty Act (MBTA)[1] protects the majority of migratory birds breeding in the U.S., regardless of their official federal listing status (Threatened or Endangered). The provisions of this international act govern the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The law applies to the disturbance or removal of active nests occupied by migratory birds during their breeding season. It is specifically a violation of the MBTA to directly kill or destroy an occupied nest of any bird species covered by the MBTA.

California Fish and Game Code (CFGC, Section 3503) protects the nest and eggs of native non-game birds. Under this law, it is unlawful to take, possess, or destroy any such birds or to take, possess, or destroy the nests or eggs of any such bird. The Code (Section 86) defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Most of the birds observed on-site, including American Crow (*Corvus brachyrhynchos*), Red-Tailed Hawk (*Buteo jamaicensis*), and Ruby-crowned Kinglet (*Regulus calendula*), are protected under both the MBTA and CFGC Section 3503. The existing stands of emergent riparian vegetation within the BSA have a high potential for use by nesting birds during their normal breeding season (February 15 to August 31). Ground-nesting birds, such as Killdeer (*Charadrius vociferus*), may nest within the large non-vegetated areas within the BSA.

Project implementation and construction-related activities, including, but not limited to, tree removal, materials lay-down, and machine/equipment noise, may result in the disturbance of nesting MBTA-protected species that could occur within the BSA. Trimming or removal of vegetation could destroy or disturb active nests. Equipment noise, vibration, lighting, and other human-related disturbance, could disrupt normal activities of birds.

To prevent impacts on nesting birds protected under the MBTA and CDFG, Mitigation Measures 1 (MM 1) and Mitigation Measures 2 (MM2) should be implemented.

Potential Impact 2: Sensitive Bird Species (Designated “State Species of Special Concern”)

Cooper’s Hawk and Yellow-breasted Chat

Suitable habitat for Copper’s Hawk is present throughout the BSA, including the large mature ornamental trees (Mexican Fan Palms and Eucalyptus) along Jamboree Rd. and MacArthur Blvd and within the Riparian habitat adjacent to the Project site. Suitable habitat for the Yellow-breasted Chat is present within the riparian habitat.

Although these species can withstand some urban noises, such as the traffic noises that are currently associated with Jamboree Rd and MacArthur Blvd, the temporary construction noises from Project equipment, such as backhoes, drills, and trucks, maybe substantially louder than current background noise and may indirectly affect the potential nesting, feeding, or other natural behaviors of individuals present in adjacent parts of the streambed, and upstream and downstream in the channel.

If vegetation/tree removal occur during nesting bird season (February 15 through August 31), direct impacts to active nests may also occur.

To minimize potential indirect or direct impacts on Cooper’s Hawk and Yellow-breasted Chat, Mitigation Measures 1 (MM1) and Mitigation Measures 2 (MM2) should be implemented.

Potential Impact 3: Sensitive Bird Species (Designated as State and Federally “Endangered”)

Least Bell’s Vireo

Suitable nesting and foraging habitat for Least Bell’s Vireo (State and federally listed as Endangered) is present within the Riparian Scrub habitat down slope of Jamboree Rd. and MacArthur Blvd. This species is not expected to occur within the Project’s proposed limits of construction. However, if Least Bell’s Vireo is present within 500 feet of the Project site, the Project-related construction noise (e.g., the operation of backhoes, drills, and trucks) could indirectly disrupt their onsite foraging and breeding activities during nesting season February 15 through August 31. These species were not identified during the site visit and are currently not known to occur within the Project site. Direct impacts are not expected.

To minimize potential temporary, indirect noise impacts on Least Bell’s Vireo Mitigation Measure 1 (MM1); 2 (MM2) 3 (MM3); and 5 (MM5) should be implemented.

Potential Impact 4: Sensitive Bat Species

Western Mastiff Bat (Eumops perotis californicus)

Occurrence of Western Mastiff Bat are documented near the BSA (< 1 mile SE, 2007). And moderate foraging and roosting habitat suitability is present within adjacent buildings, ornamental trees (i.e. palm trees), and in the two drainage culvert that extends under Jamboree Rd adjacent to the Project site (See Appendix D, Site Photograph’s 1, 2, and 4). Tree removal and construction activity (i.e., noise/vibrations) could affect roosting individuals or nursery sites if present within or directly adjacent to the Project site.

To minimize potential impacts on sensitive wildlife species, Mitigation Measures 2 (MM2) and Mitigation Measures 4(MM4) should be implemented.

Potential Impact 5: Jurisdictional Areas (USACE and CDFG Jurisdiction)**Potential Permits Required for Impacts to Surface Aquatic Features, including USACE, CCC, and CDFG Jurisdictions:**

USACE, CCC, and the CDFG have jurisdiction over certain streams, open water, riparian habitat, and wetlands such as those resources located within the BSA. Alteration, such as filling, of these jurisdictional areas requires permits from the USACE, RWQCB, and CDFG. As the project is currently designed (pursuant to the Concept Plan for Jamboree Road Widening design plan prepared by VA Consulting, Inc. dated February 11, 2010) the limits of construction is located outside of USACE, RWQCB, and CDFG jurisdictions. However, if inadvertent impacts occur to these jurisdictional areas then an after-the-fact permitting situation would be triggered. Inadvertent impacts could occur by construction equipment extending beyond the limits of the proposed Project. Alternatively, dirt and cobbles could roll down the steep slope located on the south side of Jamboree Road and into the USACE, RWQCB, and CDFG jurisdictions.

To minimize the potential for inadvertent impacts on native riparian trees and the various jurisdictions mentioned above, Mitigation Measure 5 (MM5) should be implemented.

Buffer Areas for CCC-defined Wetlands:

Policy 4.2.2-3 of the Local Coastal Program of the City of Newport Beach states that buffer areas around wetlands are required to ensure their biological integrity and preservation. Buffer widths are to have a minimum of 100 feet, wherever possible. However, Policy 4.2.2-3 also allows smaller wetland buffers, if a narrower buffer would be amply protective of the biological integrity of the wetland given the site-specific characteristics of the resource and the type and intensity of disturbance. In the case of the Jamboree Road Widening Project, the current buffer between the edge of the sidewalk and the CCC-defined wetland and ESHA is currently at 13 linear feet or greater. Therefore, the 100 foot buffer is not possible because the existing situation prior to Project construction is considerably less than 100 linear feet. Clearly, this is a situation in which “site specific constraints” pursuant to Policy 4.2.2-3 are applicable, as the existing condition is non-compliant.

In consideration of Policy 4.2.2-3, this Project has been re-designed (see PROJECT DESIGN FEATURE) to its smallest possible impact by eliminating the sidewalk so that post construction noise is located as far away as possible from the biological resources and by installing a retaining wall to keep Project construction as far as possible from the biological resources. The type and intensity of the vehicular traffic will remain the same, with the exception that proposed location for the additional lane of traffic will be marginally closer to the CCC-defined wetland and ESHA (i.e. no more than 42 inches closer). That is, the curb of the traffic lane will reduce the buffer area by 3.5 feet, compared with the current location of the existing sidewalk. With the elimination of the sidewalk, disturbance by pedestrians is removed; however, the expected increase in traffic noise was analyzed to assess whether the narrower buffer will adversely affect nesting birds and other wildlife within the CCC-defined wetland and ESHA. The noise associated with vehicles is expected to increase by about 2 dBA.¹⁰ Given that the existing noise levels in the CCC-defined wetland and ESHA along Jamboree Road¹¹ are between about 60 and 70 dBA

¹⁰ The sound level increase would be 10 times the logarithm of the ratio of the old to the new distance, where the ratio is raised to a power that depends upon the nature of the intervening ground. For noise transmission across soft ground from road traffic, this power is 1.5. Therefore, the noise increase is $10\log(13/9.5)^{1.5} = 2.0$ dBA.

¹¹ City of Newport Beach, “Existing Noise Conditions,” *General Plan*, Figure N2 (April 20, 2006).

CNEL,¹² the increase is not likely to be perceptible, and would not be considered an adverse effect on the wildlife within the CCC-defined wetland and ESHA. In addition, MM6 requires enhancing the buffer area with the planting of native shrubs and trees along the margins of the riparian habitat, which will also act as buffers to further reduce noise and visual impacts.

RECOMMENDED MITIGATION MEASURES

MM 1: Pre-Construction Survey for Nesting Birds

Migratory Birds, CDFG Section 3503, Cooper's Hawk, Yellow-breasted Chat, and Least Bell's Vireo

Construction activities (including vegetation clearing) conducted between September 1st and February 14th will normally avoid impacts on state and federally protected migratory birds in their nesting season. Therefore, we recommend that construction activities with potential to directly (e.g., vegetation removal) or indirectly (noise/ground disturbance) be conducted outside of the normal bird nesting season. If construction must be scheduled to occur during nesting season, then vegetation removal conducted between September 1 to February 14 would reduce the impacts on nesting birds. If either vegetation removal or construction cannot occur outside nesting season, than pre-construction clearance surveys and a nesting deterrence program, as described below, should be implemented to avoid or reduce impacts on nesting birds.

Although there is large variation in nesting behavior among species, bird nests are often built and eggs are laid within a few days. Incubation and fledgling periods can last up to 45 days or more. Therefore, if construction/vegetation removal is scheduled during nesting season (February 15th and August 31st), for planning purposes, a nesting bird deterrence and removal program several months prior to the start of construction and vegetation removal activities will avoid or reduce potential impacts on nesting birds. The biological surveys would identify on-site bird species and any nest-building activities well in advance of construction. Because there is no legal mechanism to authorize “take” of active nesting MBTA- or CFGC-protected birds, a nesting bird deterrence and removal program implemented in advance of construction (prior to egg laying) will avoid the potential impact. The clearance work would be conducted within the months prior to construction/vegetation removal, and accordingly, eliminate the ability for birds to be nesting within the Project's limits during construction. Such deterrence methods include removal of previous year's nesting materials and removal of partially completed nests in progress. A nest with eggs or hatched young cannot be removed.

If no nesting birds are found within, or adjacent to the project work area during the pre-construction survey period, construction activities may proceed as scheduled. However, due to the presence of suitable nesting habitat on the project site and the migratory nature of many bird species in Orange County, MBTA- and CFGC-protected nesting birds are expected on the project site.

If an active nest is found within or adjacent to the project work area during construction, a “No Construction” Buffer Zone would be established around the active nest (usually a minimum radius of 200 feet for passerine birds and 500 feet for raptors) to minimize project impacts on the nesting activity. The onsite Project Biologist/Biological Monitor will determine and flag the appropriate buffer size required, based on the specific situation, tolerances of the species, and the nest locations. Project activities may resume in the buffer area when the Project Biologist/Biological Monitor has determined the nest(s) is no longer active. Also, a Biological Monitor should be present during vegetation removal in the nesting season to minimize impacts on nesting birds.

¹² CNEL = Community noise equivalent level, which is a 24-hour average with higher weighting for evening and nighttime exposures.

Because some bird species nest early in Spring and others nest later in Summer, surveys for nesting birds should continue during construction to address new arrivals, and because some species breed multiple times in a season. If listed Endangered or Threatened species are found within 500 feet of the Project Work Area, the USFWS and CDFG, as appropriate, will be consulted at the time they are first observed.

MM 2: Pre-Construction and Construction Clearance Surveys

Unanticipated Sensitive Wildlife Species

Pre-Construction: As vegetation removal and construction activities (e.g. surface grading/vibration/noise) will occur upslope of the riparian vegetation, a Project Biologist/Biological Monitor shall conduct pre-construction surveys within and adjacent to the Projects limits of construction three days before the commencement of construction activities (including the installation of any fencing and vegetation removal) to address potential effects on sensitive species, if present, in advance of construction. This includes inspections for sensitive terrestrial species, sensitive roosting bats, and sensitive nesting birds. Although low, herpetological species such as the Two-striped Garter Snake (*Thamnophis hammondi*) and other wildlife may be encountered during the initial vegetation removal and grading efforts. Sensitive species observed should be flushed (with the exception of actively nesting birds) from the construction area away from Jamboree Road and MacArthur Boulevard into the riparian habitat down slope and on the construction free side of the chain link fence (see MM 5). Any Federal or State Threatened or Endangered species if observed shall be reported to the USFWS (Federal) and CDFG (State), as appropriate.

During Construction: The Project Biologist/Biological Monitor shall monitor and inspect the installation of exclusion fencing (see MM5), vegetation removal (i.e., Quail Brush Scrub), and surface grading activities that occur within close proximity to the riparian habitat. Following initial vegetation removal of non-riparian vegetation and surface grading, weekly monitoring shall occur throughout construction to help the construction crew to avoid or reduce impacts on sensitive biological resources, if encountered and to maintain the fencing in good conditions. The fencing should be routinely inspected and terrestrial species (e.g., herpetological species) shall be relocated back into the ESHA habitat when discovered.

MM 3: Avoidance and Minimization Measures for Least Bell's Vireo

Least Bell's Vireo

Recommendation 1: Construction activities (including vegetation clearing) that take place fall and winter between September 1st and February 14th would avoid impacts on the Federal and Stated Endangered Least Bell's Vireo. Therefore, it is recommended that construction activities that have the potential to affect LBV occur outside of nesting season.

Recommendation 2: Focused surveys for Least Bell's Vireo (LBV) should be to be completed to determine the presence/absence of LBV wherever suitable habitat is present within 500 feet of the limits of construction. Surveys will be conducted by a LBV permitted biologist according to the following USFWS guidelines:

- For LBV, all riparian areas and other potential habitats will be surveyed at least 8 times during the period of April 10 to July 31. Each survey will be conducted at least 10 days apart.

- However, the USFWS may agree to a reduced effort if the permitted Project Biologist and USFWS conclude that 8 surveys are unnecessary. This will be determined following initial site visits.
- A Presence/Absence LBV Report shall be prepared detailing the results of the field surveys, and include potential mitigation measures, if any, for the Project site.

Recommendation3: As a potential alternative to focused surveys (pending USFWS approval), if construction activities occur during nesting season February 15 through August 31 (spring/summer), temporary sound walls may be installed along the perimeter of the construction limits. These sound walls should be installed along the entire perimeter of the limits of construction which boarder the Riparian habitat/LBV habitat (Jamboree Rd and MacArthur Blvd) to avoid indirect impacts on LBV. A Least Bell's Vireo permitted biologist should be consulted for sound wall specification including wall materials, dimensions, and location.

MM4: Pre-construction Surveys for Roosting Bats

Although no evidence (sign) indicating the potential presence of sensitive bat species was observed, recent occurrences of sensitive bats have been reported in the region and suitable habitat is present within and adjacent to the Project site. Therefore, pre-construction surveys conducted by a qualified biologist are recommended to determine if sensitive bat species are present, particularly prior to tree removal and ground disturbance activities.

If evidence of a bat hibernaculum (i.e., overwintering roost) or nursery sites are established by bats in the Project's limits of construction, the biological monitor will recommend exclusionary devices or removal efforts, if possible, as necessary based on specific species and situational criteria. For example, if sensitive bats are observed roosting within the drainage culvert beneath Jamboree Rd, exclusionary devices may be installed at the tunnel opening to avoid indirect effects that may occur as a result of ground disturbance occurring just upslope of the tunnel. Exclusionary devices shall not be installed at the entrance to nursery sites as juveniles may not fly out. Nursery sites could be expected during spring. Disturbances to sensitive bat nursery sites or winter roost shall be avoided.

Due to local and California Health Department restrictions, no direct contact by workers with any bat species is allowed. The Project Biologist/Biological Monitor shall be contacted immediately should any bats be identified within the Project's limits of construction, who will oversee exclusion or removal efforts, as necessary. If construction is to occur in phases or over an extended period of time, multiple pre-construction surveys may be required to address seasonal bat migrants and the potential influx of new arrivals.

MM 5: Construction Avoidance and Exclusion Measures

USACE, CCC, and CDFG Jurisdiction and Sensitive Wildlife

Jurisdictional (USACE, CCC, and CDFG) Avoidance Measures: The installation of a chain-linked fence prior to construction and located up slope of the limit of CDFG jurisdiction and CCC-defined wetland and ESHA is recommended as an avoidance measure. This chain-linked fence would function to prevent construction personnel and equipment from inadvertently affecting USACE and CDFG jurisdiction and a CCC-defined wetland and ESHA. In addition, this fence would also prevent cobbles, dirt, and other debris from rolling down the slope from the construction site and into USACE and CDFG jurisdiction and the CCC-defined wetland and ESHA (which would otherwise require permitting for these impacts as described above in *Potential Impact 5*). This fence would not have to be any higher than 6 feet in height

above the ground level. However, the fence would need to be installed approximately 2 feet deep so that it can maintain its integrity if large amounts of cobbles and dirt were pile up against it. In addition, this chain-link fence should also act as an exclusion fence to reduce the likelihood of sensitive wildlife (e.g., Two-striped Garter Snake) from entering the construction area. This would be accomplished by placing a fine vinyl mesh or silt fencing at the bottom of the chain-link fence. One end of the exclusion fence would be buried into the ground and the other end would be at least foot in height.

This fence should be routinely inspected (at a minimum of twice a week) throughout construction to maintain its integrity, and removed immediately following construction activities.

A recommended location for this chain-link fence line is provided in Appendix A, Figure 4 (however, its exact location is not critical as long as this fence is located upslope of the CDFG jurisdiction prior to construction).

It is important to note that if these USACE, CCC, and CDFG resources cannot be avoided by the Project, then a formal jurisdictional delineation and report will be required. A jurisdictional delineation and report would determine if each aquatic feature is subject to USACE jurisdiction pursuant to Sections 404 and 401 of the Clean Water Act; subject to CDFG jurisdiction pursuant to Section 1600 et seq. of the California Fish and Game Code. For those drainages that are jurisdictional, the jurisdictional delineation and report would characterize and quantify the amount and type of jurisdiction within the BSA and determine how much jurisdiction, and of what types, would be affected by the proposed Project. Subsequently, Section 404 and 401 permits pursuant to the Clean Water Act would need to be acquired from the USACE and CDFG, respectively. In addition, a Streambed Alteration Agreement from the CDFG, pursuant to Section 1600 et seq. of the California Fish and Game Code would also be required. A mitigation plan for these impacts would also likely be required by the resource agencies.

MM 6: Post-Construction Avoidance and Exclusion Measures

USACE, CCC, and CDFG Jurisdiction and Wildlife

Native shrubs and trees planted along the margins of the riparian habitat and the Projects limits of construction will act as buffers to further reduce noise and visual impacts. Projects Landscaping plans should, at a minimum, require drought resistant and non-invasive plant species. No plant listed by the California Invasive Plant Council (Cal-IPC, 2006) shall be planted, particularly along the margins of the riparian habitat. Example of non native invasive species that should not be included in Project Landscaping plans include Pampas Grass (*Cortaderia* spp), Fountain Grass (*Pennisetum* spp.), and Mexican Fan Palm (Washingtonian robusta). Recommended native tree and shrub species to be installed, particularly along the margins of the Riparian habitat, include Fremont's Cottonwoods (*Populus Fremontii*), Western Sycamores (*Platanus racemosa*), White Alder (*Alnus rhombifolia*) Lemonade Berry (*Rhus integrifolia*), Laurel Sumac (*Malosma laurina*), and Coyote Brush (*Baccharis pilularis*). When planted along the margins of the Project limits of construction and the riparian habitat, these native shrubs and trees will acts as buffers to further reduce noise and visual impacts. Additionally, as these species are native, they will likely require limited supplemental watering after establishment.

PROJECT DESIGN FEATURE

Avoidance via Project Re-design

Plants, Wildlife, and Jurisdictional Areas

Previous construction designs would have resulted in direct impacts to surface aquatic features and the Arroyo Willow riparian habitat, including USACE and CDFG jurisdiction and CCC-defined wetland and ESHA. However, the limits of USACE and CDFG jurisdiction, and the CCC-defined ESHA and wetland, as determined herein, resulted in the redesign of the Jamboree Road Widening Project in an effort to avoid impacts to surface aquatic features (including USACE and CDFG Jurisdictions). Consequently, the proposed Project presented herein represents the end result of an aggressive avoidance policy that resulted in the installation of an expensive retaining wall for the purpose of habitat avoidance. Avoidance is a mitigation measure that is favored by many federal agencies, and thus, this is a mitigation measure that has already been accomplished.

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