Final Report

Supplemental Jurisdictional Delineation and Permitting Report

Clinton Keith Road Extension Project
Riverside County, California

Applicant
Riverside County Transportation Department

Submitted To
U.S. Army Corps of Engineers
Regional Water Quality Control Board
California Department of Fish and Wildlife

June 2013

Submitted by

CH2MHILL

CH2M Hill
1770 Iowa Avenue, 200
Riverside, CA 92507

TABLE OF CONTENTS

Figures

Appendixes

1.0 Executive Summary

This supplemental report presents the results of a wetland delineation performed at one location within the limits of the Clinton Keith Road Extension Project (proposed Project), and serves as a supplement to the Jurisdictional Delineation (JD) Report prepared in 2006 (Appendix A). This location is a newly created wetland area under the jurisdiction of the United States Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB). This wetland formed as a result of the construction of a housing tract (Tract 29484) after the previous 2006 JD Report for the proposed Project was approved. An assessment of impacts to this jurisdictional area from the proposed Project is presented, along with avoidance and minimization measures to reduce impacts, and mitigation measures to compensate for impacts.

The proposed Project, as described in the 2006 JD Report, is located in western Riverside County along the northern jurisdiction of the City of Murrieta and unincorporated Riverside County (Figure 1 – Regional Project Area). The specific limits of the entire proposed Project are between Antelope Road, near Interstate (I)-215 and State Route (SR) 79 (Figure 2 – Proposed Project). The proposed Project consists of constructing a six-lane urban arterial within the proposed Project limits. As shown in Figure 2, two segments of the proposed Project have already been constructed. These segments did not impact USACE, CDFW or RWQCB jurisdictional areas. The remaining two segments of the proposed Project would impact jurisdictional areas, one of which is the newly created wetland described in this supplemental JD Report. The newly created wetland is located at the outlet of a large culvert near the intersection of Leon Road and Clinton Keith Road as shown in Figure 2 – Proposed Project.

Quantifiable impacts at this location to USACE, CDFW, and RWQCB jurisdictional areas would include permanent, direct and indirect impacts as a result of fill material for the roadbed, installation of soft-bottom culverts, and a detention basin, and temporary impacts in areas needed for access during construction. A total of 0.60 acres (ac) (0.24 hectares [ha]) of permanent impact and 0.33 ac (0.13 ha) of temporary impact under the jurisdiction of the USACE and RWQCB would occur. However, a total of 0.72 ac of permanent impact and 0.21 ac of temporary impact under the jurisdiction of CDFW would occur.

With these impacts, as well as impacts described in the 2006 JD report to other waters of the U.S. throughout the proposed Project limits, an Individual 404 permit from the USACE is anticipated for the proposed Project. A Streambed Alteration Agreement is anticipated because of impacts to areas under jurisdiction of the CDFW, and a RWQCB 401 Water Certification would be required for the proposed Project because of impacts to areas under the jurisdiction of RWQCB.

2.0 Introduction

This supplemental JD report is being prepared to summarize the findings of a wetland delineation located at the outlet of a newly constructed culvert near the intersection of Clinton Keith Road and Leon Road in support of the proposed Project (Figure 2 – Proposed Project). The supplemental wetland delineation was performed to identify new jurisdictional waters of the United States (U.S.)/State and to evaluate connectivity to a Traditional Navigable Water (TNW) as defined by the U.S. Army Corps of Engineers (USACE). In addition, stream bed and bank jurisdiction under Section 1600 of the California Fish and Wildlife Code, as administered by the CDFW, was evaluated.

This supplemental delineation was requested during the permitting process with the RWQCB for potential impacts to waters of the State for the eastern portion of the proposed Project. The following information contains a project description; background of the environmental approval for the proposed Project; methods used during the wetland delineation; and associated results.

2.1 Project Description

The Riverside County Transportation Department (RCTD), acting on behalf of Riverside County (County) as the California Environmental Quality Act (CEQA) Lead Agency, and in cooperation with the City of Murrieta, is proposing the construction of the proposed Project as a six-lane urban arterial in western Riverside County along the northern jurisdiction of the City of Murrieta and unincorporated Riverside County (Figure 1 – Regional Project Area). The overall proposed Project limits are between Antelope Road, near Interstate (I)-215, and State Route (SR) 79. Construction of the proposed Project would occur along the existing dirt alignment of Clinton Keith Road to the point where it intersects with Los Alamos Road and then continues easterly on the adopted General Plan alignment to SR 79. However, the new Clinton Keith Road would no longer intersect with Los Alamos Road (Figure 2 – Proposed Project).

The proposed Project is being built in four segments. Two of the segments have already been constructed. The limits of the four segments are as follows:

- Segment 1 – between Antelope Road and Whitewood Road (Station [Sta] 210+00 - 237+00) [already constructed]
- Segment 2 – between Whitewood Road and Trois Valley Road (Sta 237+00 - 329+00) [not yet constructed]
- Segment 3 – between Trois Valley Road and Leon Road (Sta 329+00 -347+00) [already constructed]
- Segment 4 – between Leon Road and SR-79 (Sta 347+00 - 380+00) [not yet constructed]

Segments 1 and 3 were constructed as part of the City of Murrieta's local road improvement project for access to a new hospital, and as part of Tract 29484, respectively. Segments 2 and 4 remain to be constructed, and would be phased. The first phase for each segment would consist of paving the eastbound lanes only (half width roadway paving) and striping to include one travel lane in each direction, with full grading for the future 6-lane facility. Once funding becomes available, the next phase of each segment would consist of paving the westbound lanes that have been graded under the first phase. Phasing of the proposed Project would not change the environmental footprint. Overall, the distance of the proposed Project, including all four segments, is approximately 3.4 miles.

2.2 Project Background

2.2.1 Environmental Impact Report

The Clinton Keith Road Final Environmental Impact Report (EIR) No. 398 was certified on December 19, 2000. The preferred alignment evaluated in the 2000 EIR was called the Preferred-Hybrid Alignment. Following the certification of the 2000 EIR, the Riverside County Board of Supervisors adopted General Plan Amendment 409 on December 19, 2000, for the Preferred-Hybrid Alignment of Clinton Keith Road.

The 2000 EIR evaluated two actions, the formation of the Southwest Road and Bridge Benefit District (SWRBBD) for financing transportation projects in the SWRBBD, and the evaluation of alternatives for the construction of Clinton Keith Road at a project level. Clinton Keith is a SWRBBD facility.

Subsequent to the 2000 EIR, modifications to the proposed Project design required additional evaluation of potential environmental impacts under CEQA. The RCTD prepared a Supplemental EIR, including a public comment period, to address the changes to the proposed Project. The Final Supplemental EIR was adopted by the Riverside County Board of Supervisors on February 7, 2006. Currently, an EIR Addendum is being prepared to document changes associated with the newly proposed construction phasing and the newly created wetland at this location. An Environmental Assessment is also being prepared to accompany the Individual 404 Army Corps of Engineers Permit.

2.2.2 Jurisdictional Delineation and Permitting Report

A previous JD Report was completed in August 2006 for the proposed Project (CH2M HILL, 2006 [Appendix A). Subsequently, the proposed Project was split into two portions (west and east) based on coordination with the permitting agencies. The west portion limits extended from Antelope Road to approximately 0.20 miles east of Warm Springs Creek. The east portion limits extended from the end point of the western portion to SR 79. However, due to the impacts associated with the newly created wetlands described in this report, the proposed Project is no longer being split into two portions. The proposed Project will be permitted as a whole by USACE and CDFW. RWQCB already issued a 401 permit for the west portion of the proposed Project in February 2010 (Appendix B), so further coordination will take place with their agency to determine the best approach for permitting the previously defined east portion.

A CDFW Operation of Law letter was issued for the entire proposed Project (both west and east portions) in March 2007 (Appendix C). A 404 permit was not received for any portion of the proposed Project.

Subsequent to the August 2006 JD Report, Segment 3 of the proposed Project was constructed as part of Tract 29484. This residential project also included the installation of a large double HydroArch culvert which measures approximately 50 feet wide, and varies in height from nine feet to ten feet, six inches (Appendix D – Site Photos). This culvert is adjacent to the future alignment of Segment 4, and discharges storm water and nuisance flows, which has resulted in the creation of a wetland that now extends into the proposed Project impact area (Figures 3 and 4 – Impacts to Waters of the U.S. and Impacts to CDFW Jurisdictional Areas).

During the previous delineation in August 2006 for the proposed Project, the area located at the outlet of the large double HydroArch culvert was not considered jurisdictional under Section 404 of the Clean Water Act, as there was no evidence of wetlands or connectivity to any traditional navigable water (TNW) body. However, after construction of Tract 29484 which resulted in the newly created wetlands, this area has now met the criteria to be considered waters of the State and required a Waste Discharge Requirement (WDR) permit from the RWQCB. During the permitting process for the WDR, the RWQCB requested RCTD to conduct a wetland delineation of this area to verify the previous delineation results due to the changes created by the large culvert.

2.2.3 Multiple Species Habitat Conservation Plan Consistency/Section 7 Consultation

The proposed Project was also incorporated as a Covered Project into the Western Riverside County Multiple-Species Habitat Conservation Plan (MSHCP). The MSHCP was adopted by the Riverside

County Board of Supervisors on June 17, 2003. The U.S. Fish and Wildlife Service (USFWS) issued take authorization to the MSHCP permittees on June 22, 2004. The CDFW issued Natural Community Conservation Planning (NCCP) Approval and Take Authorization for the MSHCP as per Section 2800, et seq., of the California Fish and Wildlife Code.

RCTD received an MSHCP Consistency Review Letter for the proposed Project from USFWS and CDFW in February 2007, and a biological opinion from USFWS in March 2007 (Appendix E). Species addressed included the coastal California gnatcatcher (*Polioptila californica californica*), Quino Checkerspot butterfly *(Euphydryas editha quino*), and Stephens' kangaroo rat *(Dipodomys stephensi*).

2.2.4 Section 106 Consultation

Previous consultation with the State Historic Preservation Office regarding Section 106 has not occurred for the proposed Project. Preliminary meetings held with USACE indicated Section 106 consultation would take place for the federal action areas (jurisdictional drainages) plus 250 feet upstream and downstream of the proposed Project. USACE is the lead federal agency for the proposed Project.

2.3 Purpose of Report

This supplemental JD report presents the results of a wetland delineation to identify new jurisdictional waters of the U.S./State for the area located at the outlet of the large double HydroArch culvert near the Clinton Keith/Leon Road intersection. This area was previously devoid of wetland vegetation or signs of hydrology within the proposed Project footprint, as discussed above in Section 2.0, Introduction.

Additionally, the delineation was performed to evaluate connectivity to a TNW as defined by the USACE. For this Project, the jurisdictional area of the RWQCB is the same as the jurisdictional area of the USACE.

3.0 Scope of Work/Methodology

3.1 Waters of the United States

3.1.1 Regulatory Discussion

The USACE regulates discharges of dredged or fill material into waters of the United States (U.S.) pursuant to Section 404 of the Clean Water Act (CWA). These waters include wetland and non-wetland waters that meet specific criteria. USACE jurisdiction extends to waters of the U.S. that exhibit a connection to interstate commerce. This connection may be direct; through a tributary system linking a stream channel with a traditional navigable water (TNW) used in interstate or foreign commerce; or may be indirect, through a nexus identified in the Corps regulations. The following definition of waters of the U.S. is from 33 Code of Federal Regulations (CFR) 328.3:

> "The term waters of the United States means:
>
> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce…;
>
> (2) All interstate waters including interstate wetlands;

> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) … the use, degradation or destruction of which could affect interstate or foreign commerce…;
>
> (4) All impoundments of waters otherwise defined as waters of the United
>
> States under the definition; and
>
> (5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section."

Within non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction is defined by the Ordinary High Water Mark (OHWM). In 33 CFR 328.3, the OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, or the presence of litter and debris" (Environmental Laboratory, 1987). Generally, USACE considers the OHWM to be the elevation to which water flows at a 2-year frequency (i.e., 50 years out of 100 years). Typically, in this area, the OHWM is indicated by either the presence of an incised streambed with defined bank shelving or a change in vegetation type.

In Solid Waste Agency of Northern Cook County (SWANCC) versus Army Corps of Engineers, 531 U.S. 159 (2001), the Supreme Court upheld a decision that USACE could not regulate isolated, intrastate waters that do not bear a significant nexus to TNWs (at least in most cases). On January 15, 2003, the United States Environmental Protection Agency (USEPA) issued formal guidance for USACE in determining jurisdiction in light of the SWANCC ruling. In the joint memorandum, USEPA concluded that USACE field staff should not assert jurisdiction over isolated waters that are both intrastate and non-navigable, where the only basis for the assertion is the Migratory Bird Rule. Where a wetland is found to be adjacent to a navigable water or tributary to navigable water, USEPA concluded that USACE field staff should assert jurisdiction (USEPA, 2003).

3.1.2 Methodology

A wetland delineation was conducted in April 2011 to identify jurisdictional waters of the U.S. and to evaluate connectivity to a TNW, as defined by the USACE, which would affect potential presence of jurisdictional waters of the U.S. The delineation was used to evaluate impacts to jurisdictional waters for the remaining east portion of the proposed Project.

The survey methodology followed the USACE 1987 Wetland Delineation Manual (Wetland Training Institute, 2001) and the *Final Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008). This methodology uses a three-criterion approach (vegetation, soils, and hydrology) to determine the presence of wetlands. In most situations, evidence of a minimum of one positive indicator for each criterion must be found in order to make a positive wetland determination. In general, wetlands will normally meet the following criteria:

- **Vegetation**: More than 50 percent of the dominant vegetation species are hydrophytic (i.e., have an indicator status of facultative, facultative wetland, or obligate wetland).
- **Soils**: Soils are either classified as hydric by the Natural Resources Conservation Service (NRCS), or possess characteristics of reducing conditions. These are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part, resulting in the chemical reduction of ions in the soil profile.

- **Hydrology**: The area is either permanently inundated or frequently saturated to within 12 inches of the surface for sufficient duration to develop hydric soils and support vegetation adapted for life in periodically anaerobic conditions (typically, at least 5 percent of the growing season).

Prior to field sampling, regional and site data were evaluated. This included evaluating soil data from the NRCS interactive web mapping system, evaluating aerial photography of the proposed Project site and surrounding areas, and evaluating proposed Project improvements and prior delineation reports for the proposed Project.

Wetland sample points were established at three locations on the site (Figure 3 – Impacts to Waters of the U.S.). Sample locations were established along the wetland boundary, on pond banks and along the water's edge. Representative photographs are included in Appendix D – Site Photos, and field data sheets are included in Appendix F – Field Data Sheets.

At each sample point, the dominant plant species were identified and the percent cover was visually estimated and recorded. The wetland indicator status was determined using the *National List of Plant Species that Occur in Wetlands, Southwest Region* (USFWS, 1997). Dominant species within each vegetation strata included the most abundant species whose cumulative cover accounted for at least 50 percent of the total cover, as well as any single species that accounted for at least 20 percent of the total vegetative cover. Strata that contained less than 5 percent total cover were not considered in the dominance test.

Descriptions of soils were made at each sample location by examining soil pits dug with a tile spade to depths ranging from 12 to 16 inches. Soil morphological features such as texture, color, and redoximorphic features (if present) were noted. Soils texture was estimated in the field by approximating the clay and sand content by feel. Moist soil colors were determined using Munsell® color charts. Determinations of hydric soils were based on *Field Indicators of Hydric Soils in the United States v.6.0* (NRCS, 2010).

Wetland hydrology was determined based on observations of saturation or inundation during the field surveys. Information on landscape position and general site topography were also taken into consideration while making wetland hydrology determinations.

Wetland boundaries were determined in the field based on changes in plant species composition and cover, presence/absence of hydric soil characteristics, hydrologic conditions, and local microtopography. The boundaries were mapped in the field using a Trimble® Geo-XT Global Positioning System (GPS) Unit. Data were then differentially corrected to generally sub-meter accuracy. GPS data were evaluated against aerial photographs and as-built contour drawings to refine and adjust wetland boundaries.

To determine if waters and wetlands at the proposed Project site were isolated, intrastate waters, downstream connectivity to a TNW was evaluated in the field and via regional hydrology maps. This included following the site drainage to offsite locations to determine flow path to the nearby waterways which are known to or could be determined to discharge to a downstream TNW.

In defining OHWM, additional documents were consulted, including *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE, 2008a), *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (USACE, 2006), and *Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the U.S. in the Arid Southwest* (USACE, 2001).

3.2 Regional Water Quality Control Board

3.2.1 Regulatory Discussion

The California RWQCB is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of USACE. The RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Act.

The proposed Project site is in the Santa Margarita Hydrologic Unit. The Basin Plan includes beneficial use designations for Warm Springs Creek and French Valley Creek. The new wetland area described in this supplemental JD Report does not have a designated beneficial use; however, because it is a tributary to French Valley Creek, the French Valley Creek beneficial uses apply to it. The beneficial uses of French Valley Creek include the following designations: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Non-Contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), and Wildlife Habitat (WILD). Contact Water Recreation (REC 1) is a potential beneficial use.

3.2.2 Methodology

As discussed above in Section 2.3, the jurisdictional area of the RWQCB is assumed to be the same area as the jurisdictional area of the USACE. The methods used above in Section 3.1.2 were the same for determining RWQCB jurisdiction.

3.2 California Department of Fish and Wildlife 1600 Jurisdiction

3.2.1 Regulatory Discussion

Section 1600 of the Fish and Wildlife Code regulates the alteration of the bed, bank, or channel of a stream, river, or lake, including dry washes. Generally, the CDFW asserts jurisdiction up to the top of bank cuts, or to the outside of any riparian vegetation associated with a watercourse. Section 1600 of the Fish and Wildlife Code regulates the alteration of the bed, bank, or channel of a stream, river, or lake, including dry washes. Activities that have the potential to affect jurisdictional areas can be authorized through issuance of a Streambed Alteration Agreement (SAA). The SAA specifies conditions and mitigation measures that would minimize impacts to riparian resources from proposed actions.

3.2.2 Methodology

The proposed jurisdictional limits for the CDFW were delineated at the bank of the watercourses, except in areas where riparian vegetation extended beyond the bank. In this situation, the jurisdictional limit extended to the outside perimeter of the riparian corridor drip line. The boundaries were mapped in the field using a Trimble® Geo-XT GPS Unit. Data were then differentially corrected to generally sub-meter accuracy. GPS data were evaluated against aerial photographs and as-built contour drawings to refine and adjust CDFW boundaries.

4.0 Results

4.1 Waters of the United States

Four wetland sampling points were established along the margins and adjacent uplands of the wetland area to identify jurisdictional wetland boundaries (Figure 3 –Impacts to Waters of the U.S.).

Sample Point 01

Sample Point (SP) 01 was established downstream near the southern end of the proposed Project impact area. The sample point was within the wetland, with vegetation dominated by curly dock (facultative wetland [FACW]). It met the dominance test for hydrophytic vegetation. During the survey, the test pit became inundated shortly after excavating. Soils at this location are reddish brown (5YR 4/2) sandy loam with redox features making up two percent of the matrix between 5 and 15 inches. Wetland vegetation, hydric soils, and wetland hydrology were all present, indicating this point was within a wetland.

Sample Point 02

SP 02 was established at the northern end of the wetland area. The sample point was within the wetland, with vegetation dominated by rabbit's foot grass (FACW+) and curly dock (FACW), and met the dominance test for wetland vegetation. Soils at SP 02 are reddish brown (5YR 4/4) sandy loam with redox features making up 25 percent of the matrix between 3 and 12 inches. Wetland vegetation, hydric soils, and wetland hydrology were all present, indicating this point was within a wetland.

Sample Point 03

SP 03 was established along the upland boundary to determine the wetland boundary. Vegetation consisted of red brome, fiddleneck, and common barley. No hydrologic indicators were present, and soils were not hydric. This sample point was determined to be outside of the wetland area.

Sample Point 04

SP 04 was established near the center of the wetland area, within the direct impact area of the proposed Project. The sample point was within the wetland, with vegetation dominated by rabbit's foot grass (FACW+) and brass buttons (FACW), and met the dominance test for wetland vegetation. Soils at SP 04 are reddish brown (5YR 4/2) sandy clay with redox features making up 5 percent of the matrix between 8 and 12 inches. Wetland vegetation, hydric soils, and wetland hydrology were all present, indicating this point was within a wetland.

4.1.1 Soils

All sampling points within the delineated area described in this Supplemental JD Report, include one soil unit, Monserate Sandy Loam, 5 to 8 percent slope, mapped by the NRCS (2011). Monserate series soils consist of moderately well to well drained soils, in areas of slow to rapid runoff. The Monserate soils are on nearly level to moderately steep old dissected terraces and fans at elevations of 700 to 2,500 feet. The soils formed in alluvium derived principally from granitic rocks. Mean annual precipitation is 12 to 18 inches and the mean annual temperature is about 65 degrees F. The surface layer is typically a dark reddish brown sandy loam (5YR 3/4) at approximately 0-5 inches in depth. The next layer is a dark reddish brown (2.5YR 3/4) at a depth of approximately 5 to 10 inches. The subsoil is reddish brown (5YR 5/4) to a yellowish brown (10YR 5/4) sandy clay loam. Permeability of this soil is moderate.

4.1.2 Vegetation

Surrounding habitats near the sampling points were noted during the delineation. Habitats were characterized according to Sawyer and Keeler-Wolf (1995), with modifications. Habitat types include the following.

Mulefat Series – This series occurs along streambanks with mulefat (*Baccharis salicifolia*) in pure or mixed stands with coyote bush (*B. pilularis*), willows (*Salix* spp.), California sage (*Artemisia californica*), or mugwort (*A. douglasiana*).

Arroyo Willow Series – This series is found along streamside habitats, streambanks, and areas adjacent to the wetland. It is dominated by arroyo willow (*Salix lasiolepis*) in dense stands. Additional understory species include mulefat, California sagebrush, mugwort, giant wild rye (*Leymus condensatus*), and Mexican elderberry (*Sambucus mexicana*). Canopy coverage within this series ranges from 75 to 100 percent. The tree canopy ranges from 15 to 25 ft high.

Cattail Series – This series occurs in permanently, seasonally, or irregularly flooded wetlands and is dominated by cattail (*Typha* spp.) sometimes in pure stands. A stand of nearly pure cattail, or cattail mixed with willows (*Salix* spp.) is found near the mouth of the storm drain where it discharges onto the Project site.

Open Water – Slow Moving – This habitat type dominates portions of the wetland. Dominant plants may include submerged filamentous algae or other submerged plants.

Disturbed Seasonal Wetland Series – Low terraces adjacent to perennial portions of the drainage support non-native seasonal wetland species including brass buttons (*Cotula coronopifolia*), rabbit's foot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and other wetland and upland species. This area has moist soils and floods during high flow events.

California Annual Grassland Series – This extensive series is composed of many alien and native annual species; composition varies among stands. Species present at the Project site may include ripgut brome (*Bromus rigidus*), soft chess (*B. mollis*), red brome (*B. rubens*), black and/or field mustard (*Brassica nigra; Hirschfeldia incana*), filaree (*Erodium* spp.), fiddleneck (*Amsinckia* sp.), and common barley (*Hordeum vulgare*). Additional upland exotic trees were present in some areas, including eucalyptus (*Eucalyptus* spp.).

In addition to habitat typing, the following specific plant species were observed at the sampling points, as listed below in Table 4-1.

TABLE 4-1
Dominant Plant Species Observed at Sample Point Locations

Common Name	Scientific Name	Wetland Determination1	Stratum	Sampling Points	Percent Cover
Brass buttons	*Cotula coronopifolia*	FACW	Herb	SP 04	20%
Rabbit's foot grass	*Polypogon monspeliensis*	FACW	Herb	SP 04, SP 02	60% for both sampling points
Curly dock	*Rumex crispus*	FACW	Herb	SP 01, SP 02	60%, 5%
Common barley	*Hordeum vulgare*	NL	Herb	SP 03	60%
Red brome	*Bromus rubens*	UPL	Herb	SP 03	10%

[1]Wetland Indicator Codes:
FACW - Usually occurs in wetlands (estimated probability 67-99%), but occasionally found in nonwetlands; UPL - Occurs in wetlands in another region, but occurs almost always (estimated probability 99%) under natural conditions in nonwetlands in the regions specified; NL – Not listed; if a species does not occur in wetlands in any region, it is not on the National List.

4.1.3 Hydrology

During the site survey, the wetland area contained open water, which flowed into a seasonal creek. The wetland is supported by urban runoff from an adjacent residential development (TR 24984), which is conveyed through a large double HydroArch culvert, as described above in Section 2.2.2, JD and Permitting Report, and precipitation. The flow of water generally flows south toward French Valley Creek. French Valley Creek flows southwesterly. A few miles south of the Project area, French Valley Creek converges with Warms Springs Creek. Warm Springs Creek continues to flow south into Murrieta Creek, joining it near the City of Murrieta. Murrieta Creek flows southerly to join up with Temecula Creek near Temecula to form the Santa Margarita River. The Santa Margarita River flows westerly to the Pacific Ocean, discharging to the ocean on Marine Corps Base Camp Pendleton.

Wetland hydrology was generally known to be present within the wetland based on observation of open water and the presence of detritus matting, and subtle to abrupt vegetation changes from upland species to hydrophytic species.

4.1.4 Connectivity to a TNW

The delineated wetland is within a drainage channel that is connected to French Valley Creek, which is a TNW, as previously defined in the August 2006 JD and permitting report (CH2M HILL, 2006). The Project area downstream of the culvert discharge consists of wetlands and open waters within a drainage channel. The drainage channel flows into a seasonal creek just downstream with a defined bed and bank. The stream channel is conveyed beneath Los Alamos Road via a culvert. From Los Alamos Road, the water flows into an open agricultural field. Although the drainage is disturbed by agricultural activities, it persists in a swale-like channel for approximately 500 feet through this field (Appendix D – Site Photos). At the south end of the field, the drainage enters a culvert under an unnamed dirt driveway. After discharging from this culvert, the drainage persists in a small, ephemeral channel, discharging into French Valley Creek approximately 250 feet downstream (Figure 5 – Connectivity to a TNW).

4.2 CDFW Jurisdiction

The delineated area for CDFW exhibits clearly defined channels and associated wetland/riparian vegetation. Dominant plant species observed at this new wetland area included mulefat (*Baccharis salicifolia)* and cattails (*Typha* spp.). The limits of CDFW jurisdiction shown in Figure 4 – Impacts to CDFW Jurisdictional Areas, include wetlands/riparian areas and non-riparian areas. The non-riparian areas exhibit a clearly defined bed, bank or channel, and mirrored the OHWM delineated for USACE.

5.0 Project Impacts

This section describes the proposed impacts within the USACE, CDFW, and RWQCB jurisdictional areas at the delineated site near the intersection of Clinton Keith Road and Leon Road only. However, to help clarify total impacts associated with the remaining two segments of the proposed Project, a summary table showing impacts to all jurisdictional areas is provided. These crossings are also shown in Figure 2 – Proposed Project. Details regarding the impacts to other jurisdictional waters of the U.S./State, outside of the newly created wetland area near Clinton Keith Road/Leon Road, can be found in Appendix A, Jurisdictional Delineation and Permitting Report 2006. Figures 7 through 8d in Appendix A show the locations of and impacts to Crossings A through D included below in Table 5-1.

TABLE 5-1
Summary of Impacts to Waters of the U.S./RWQCB/CDFW Jurisdictional Areas for the Clinton Keith Road Extension Project

Location	Approximate Linear Feet (lf)	CDFW Jurisdictional Area Impacted (temporary/permanent) [Acres]	USACE/RWQCB Jurisdictional Area Impacted (temporary/permanent) [Acres]
Newly Created Wetland at Clinton Keith/Leon Road Intersection	400 lf	0.21/0.72(0.12 due to shading) [1]	Wetlands: 0.33/0.58 Waters of the U.S./non-wetlands: 0.0/0.02
Crossing A	450 lf (culvert crossing)	None/0.13	None/0.13 (waters of the U.S. only [non-wetlands])
Crossing B	350 lf (culvert crossing)	None 0.03	None/0.03 (water of the U.S. only [non-wetlands])
Crossing C: Warm Springs Creek Bridge	360 lf (bridge crossing)	0.01/0.30 (shading)[1]	0.01/0.01 (water of the U.S. only [non-wetlands])
Crossing C: Tributary 2 to Warm Springs Creek	1050 lf (culvert crossing)	None/0.15	None/0.15 (water of the U.S. only [non-wetlands])
Crossing D: French Valley Creek	180 lf (bridge crossing)	0.24/0.25	0.24/0.25 (wetlands)

1 The soft-bottom culverts installed in the wetland area at Clinton Keith Road/Leon Road and the bridge span of Crossing C at Warm Springs Creek may result in indirect permanent impacts to CDFW jurisdiction (riparian canopy) from shading by the structure.

5.1 Types of impacts

5.1.1 Temporary Impacts

Temporary indirect impacts to the newly created wetland area are expected to occur during the construction of the Project. Temporary indirect impacts include a potential for increased sediment and pollutant loading to surface waters from surface runoff resulting from soil disturbance or other activities adjacent to jurisdictional areas.

At this site, direct temporary impacts include areas where vegetation would be cleared to gain access during construction of the roadbed, detention basin, and installation of culverts. Direct, temporary impacts would occur in the area north of the proposed roadbed, to install the soft bottom culverts and wingwalls. Additionally, direct, temporary impacts would occur to the south of the proposed roadbed in the temporary construction easement (TCE) area to construct the proposed detention basin (Figures 3 and 4).

5.1.2 Permanent Impacts

Permanent, direct impacts include placement of permanent Project features within jurisdictional areas that result in the permanent loss or impairment of that jurisdictional area. Permanent impacts at this location would result from the roadway fill and a detention basin to the south of the proposed roadway.

Permanent, indirect impacts to CDFW jurisdictional areas may also include shading, where shading prohibits the re-establishment of riparian or wetland vegetation. The areas under the proposed roadbed where soft-bottom culverts would be installed were quantified as permanent, shading impacts under CDFW jurisdiction (Figures 3 and 4 – Impacts to Waters of the U.S. and Impacts to CDFW Jurisdictional Areas).

5.2 Waters of the U.S./Wetlands

5.2.1 Permanent Impacts

Permanent impacts to jurisdictional waters of the U.S. at this location would equal approximately 0.60 acres (0.24 ha). Of this total, 0.58 acres (0.23 ha) are wetlands (Figure 3 –Impacts to Waters of the U.S.). The newly installed HydroArch double culvert created new wetlands, which were not previously present when the wetland delineation was performed in 2006, which now flow into the onsite seasonal creek, and eventually into French Valley Creek. See Table 5-1, Summary of Impacts to Waters of the U.S./RWQCB/CDFW Jurisdictional Areas above.

5.2.2 Temporary Impacts

Temporary impacts to jurisdictional waters of the U.S. at this location would equal approximately 0.33 ac (0.13 ha). All of these temporary impacts would occur to wetlands. See Figure 3 – Impacts to Waters of the U.S.

5.3 CDFW Jurisdiction

5.3.1 Permanent Impacts

Permanent impacts to streambeds under CDFW jurisdiction would total 0.72 ac (0.29 ha). Of this total, 0.58 ac (0.23 ha) are wetlands (Figure 4 – Impacts to CDFW Jurisdictional Areas), and 0.02 ac (0.008 ha)

are non-wetlands, but consisted of a defined bed, bank, or channel. In addition to this, impacts due to shading effects would equal 0.12 ac (0.049 ha), under the soft-bottom culverts.

5.3.2 Temporary Impacts

Temporary impacts to streambeds under CDFW jurisdiction would total approximately 0.21 ac (0.08 ha) to wetlands. See Table 5-1, Summary of Impacts to Waters of the U.S./RWQCB/CDFW Jurisdictional Areas above.

6.0 Avoidance, Minimization, Mitigation Measures

6.1 Avoidance Measures

Impacts to wetlands at this location cannot be completely avoided. The design of the roadway was based on several factors such as topography, cost, and safety design standards. However, the following avoidance measures have been incorporated to decrease the amount of fill material used for the proposed Project, and to avoid permanently impacting additional wetlands. These measures would help to maintain the integrity of the functions and values associated with this wetland.

- At this location, a double 24 x 9 foot soft-bottom culvert will be installed near Station 350+00, as shown in Figures 3 and 4
- Environmentally Sensitive Area (ESA) fencing will also be installed along the right-of-way on the north side, and along the slope easement on the south side of the proposed roadway near Station 350+00 (See Figures 3 and 4).

Although this supplemental JD Report is specific to one location, all other avoidance measures described in Section 8.1 of the 2006 JD Report still apply to the proposed Project. These include two bridges spanning Warm Springs Creek and French Valley Creek, respectively.

6.2 Minimization Measures

All minimization measures identified in Section 8.2 of the 2006 JD Report still apply at this location, which include the preparation of a stormwater pollution prevention plan, construction and permanent Best Management Practices (BMPs), and MSHCP compliance criteria. Please refer to Appendix A – 2006 JD Report, for a detailed list of minimization measures proposed for the Project.

6.3 Mitigation Measures

In addition to the mitigation measures identified in Section 8.3 of the 2006 JD Report, RCTD will provide appropriate mitigation through either in-lieu fees or creation or preservation of wetlands/waters of the U.S./State within the Santa Margarita Watershed to offset unavoidable impacts. This will be determined through the permitting process. The mitigation ratio identified in the 2006 JD Report is 1:1.5 (acres impacted to acres mitigated) for permanent impacts and 1:1 for shading impacts to CDFW Jurisdictional Areas. This same formula would be proposed for additional impacts at this site.

7.0 References

CH2M HILL. *Jurisdictional Delineation and Permitting Report, Clinton Keith Road Extension Project.* August 2006.
/
NRCS (Natural Resources Conservation Service). 2010. *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils*, Version 7.0, 2010.

NRCS, 2011. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Accessed April 2011.

United States Army Corps of Engineers, 2001. *Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest.* June 2001.

United States Army Corps of Engineers, 2006. *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels.* February 2006.

United States Army Corps of Engineers, 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Washington, DC

United States Army Corps of Engineers, 2008a. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.* August 2008.

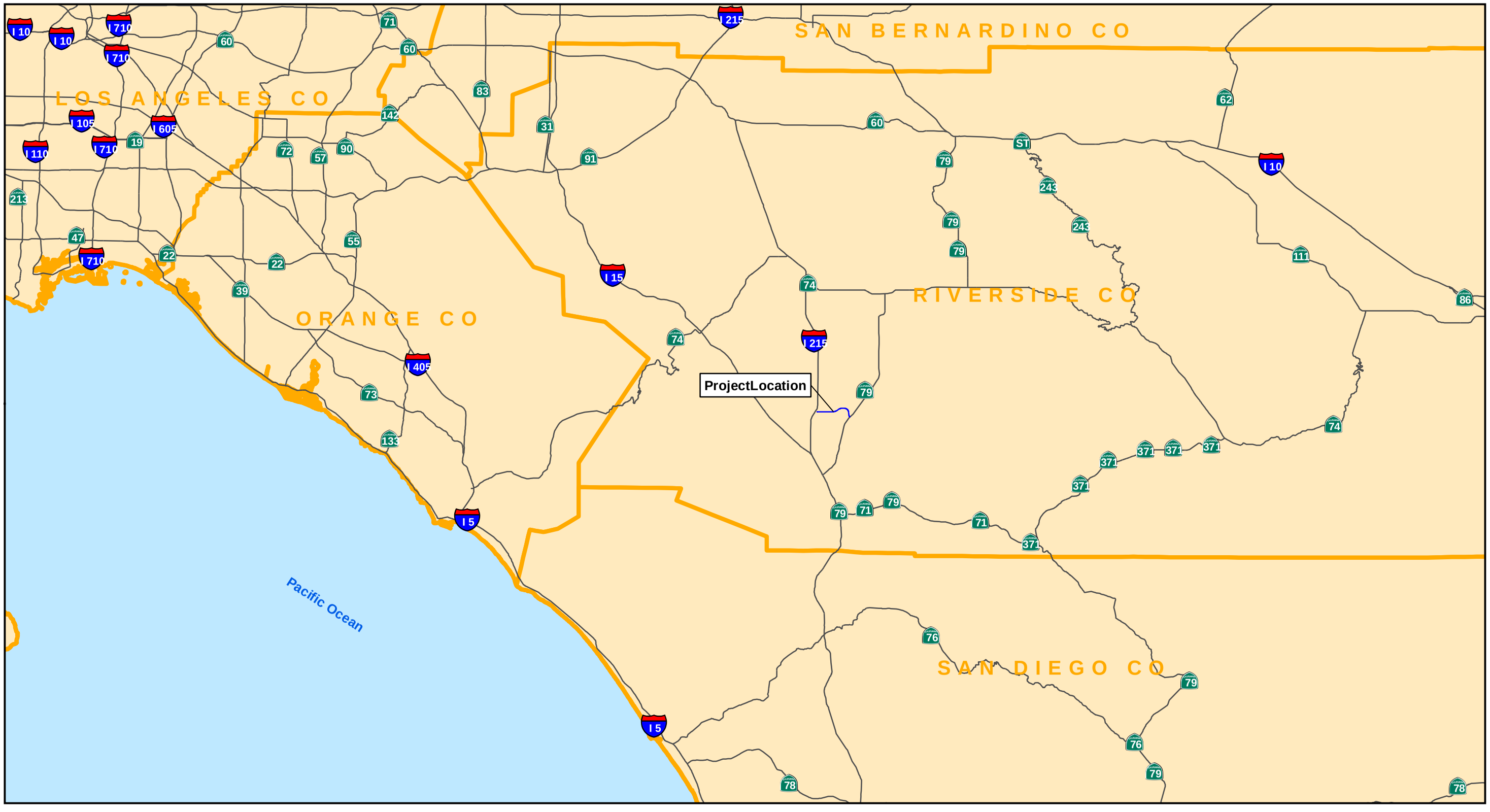
United States Department of Agriculture, *Natural Resources Conservation Service List of Hydric Soils for California*. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm; Accessed in April 2011.

United States Environmental Protection Agency (USEPA). 2003. Federal Register Volume 68. Number 10. Appendix A, Joint Memorandum. (provides guidance regarding the Supreme Court's rulemaking on "SWANCC"). January 15.

United States Fish and Wildlife Service, 1997. *National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary.*

Wetland Training Institute, Inc., 2001. *Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual.* Glenwood, NM. WTI 01-2 143 pp.

Figures



Legend

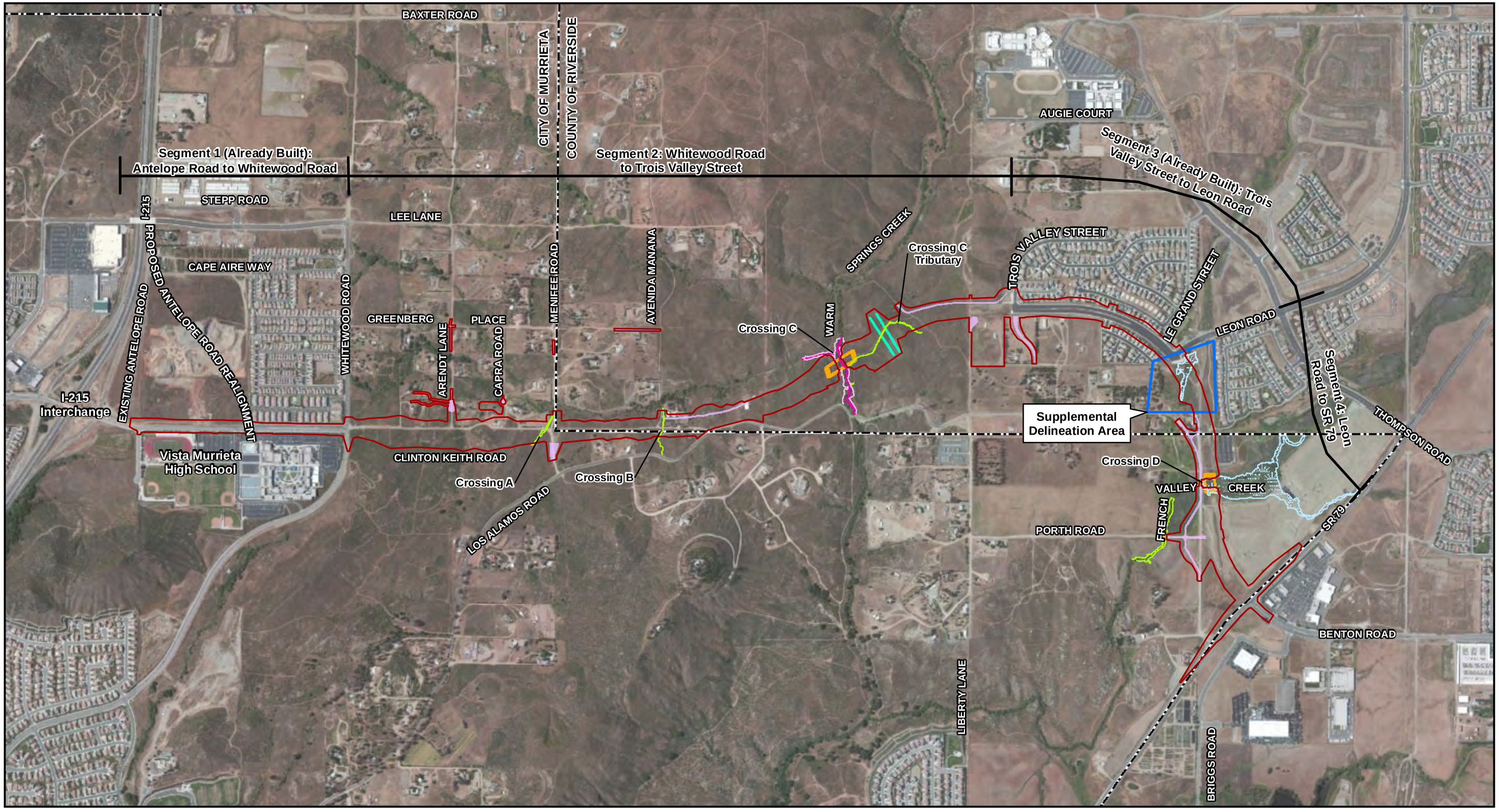
- Proposed Alignment
- Roads
- County Boundary

Figure 1
Regional Project Location
Clinton Keith Road Extension Project

CH2MHILL

Date: 04/30/2013

SCO \\GALT\PROJ\CLINTON\PLOTS\2013\JD\REGIONAL_PROJECT_AREA.MXD RANHORN 4/29/2013 10:16:57 AM



Aerial Date: Bing 2010

Legend

- Project Impact Area[1]
- Wildlife Overcrossing[1]
- Bridge and Pier[1]
- Graded Roadway[1]
- CDFG
- USACE / RWQCB
- USACE / RWQCB / CDFG
- wetland

N

0 1,200 Feet

Source: 1 - CH2MHILL; 2 - This contains geographic information owned by the County of Riverside

Figure 2
Proposed Project
Clinton Keith Road Extension Project

CH2MHILL

Date: 05/01/2013

SCO \\GALT\PROJ\CLINTON\PLOTS\2013\JD\PROP_PROJECT.MXD RANHORN 5/2/2013 12:03:54 PM

Aerial Date: Bing 2010

Legend

- Upland Sampling Point
- Wetland Sampling Point
- ESA Fencing
- OHWM
- Wetland No Impact
- Wetland Permanent Impact
- Wetland Temporary Impact
- Non-Wetlands, No Impact
- Non-Wetlands Permanent Impact
- Non-Wetlands Temporary Impact
- Project Impact Area
- Proposed Drainage Work
- TCE
- Slope Easement
- Edges

N

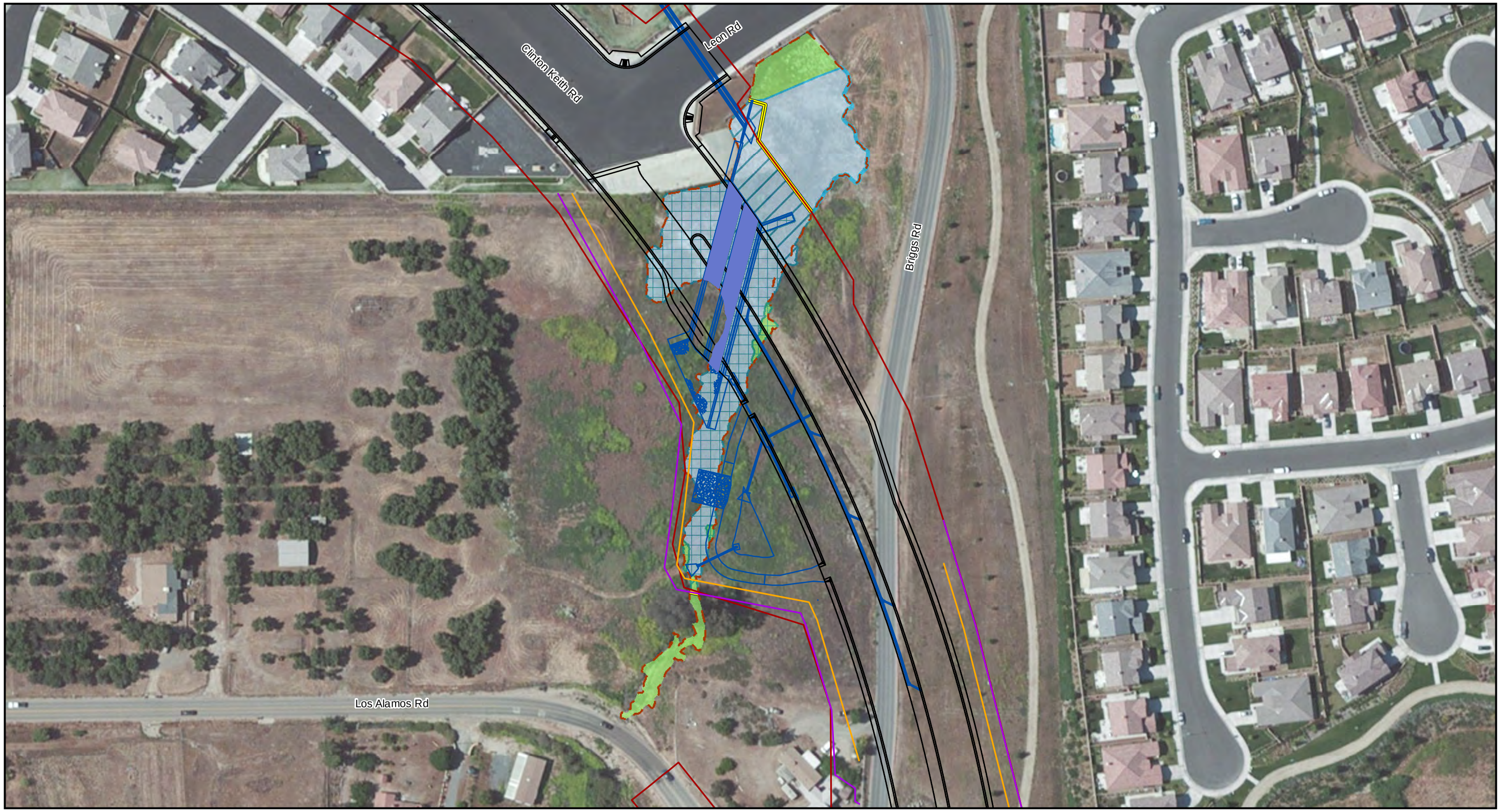
0 120 Feet

Figure 3
Impacts to Waters of the U.S. at the Outlet near Clinton Keith/Leon Road Intersection
Clinton Keith Road Extension Project

CH2MHILL

Date: 05/01/2013

SCO \\GALT\PROJ\CLINTON\PLOTS\2013\JD\PROP_PROJECT.MXD RANHORN 5/1/2013 9:29:28 AM



Aerial Date: Bing 2010

Legend

- ESA Fencing
- OHWM
- Project Impact Area
- Proposed Drainage Work
- TCE
- Slope Easement
- Wetland No Impact
- Wetland Permanent Impact
- Wetland Temporary Impact
- CDFW Streambed/Non-riparian, No Impact
- CDFW Streambed/Non-riparian Permanent Impact
- CDFW Streambed/Non-riparian Temporary Impact
- Shading Impacts

N

0 120 Feet

Figure 4
Impacts to CDFW Jurisdictional Areas at the Outlet near Clinton Keith/Leon Road Intersection
Clinton Keith Road Extension Project

CH2MHILL

Date: 05/01/2013

SCO \\GALT\PROJ\CLINTON\PLOTS\2013\JD\PROP_PROJECT.MXD RANHORN 5/1/2013 9:28:46 AM

Aerial Date: Bing 2010

Legend

- Connection to Traditional Navigable Waters
- Project Impact Area
- Proposed Drainage Work
- ESA Fencing
- Wetlands/CDFW Riparian
- CDFW Streambed/Non-riparian/Waters of the U.S.

N

0 250 Feet

Figure 5
Connectivity to a Traditional Navigable Water Body
Clinton Keith Road Extension Project

CH2MHILL

Date: 05/01/2013

SCO \\GALT\PROJ\CLINTON\PLOTS\2013\JD\PROP_PROJECT.MXD RANHORN 5/1/2013 9:32:49 AM

Appendix A – 2006 JD Report

Final Report

Jurisdictional Delineation and Permitting Report

Clinton Keith Road Extension Project
Riverside County, California

Applicant

Riverside County Transportation Department

Submitted To

U.S. Army Corps of Engineers
Regional Water Quality Control Board
California Department of Fish and Game

August 2006

Submitted by

CH2MHILL

3 Hutton Centre Drive, 200
Santa Ana, CA 92707

Contents

Appendixes

Tables

Figures

Acronyms

APN	Assessor's Parcel Number
Benefit District	Southwest Area Road and Bridge Benefit District
BMP	best management practice
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CGPA	County General Plan Amendment
CIDH	cast-in-drilled-hole
County	Riverside County
CWA	Clean Water Act
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
fps	feet per second
ft^2	square foot
GIS	Geographic Information System
GPS	global positioning system
HCP	Habitat Conservation Plan
I-215	Interstate 215
IP	Individual Permit
IS/EA	Initial Study/Environmental Assessment
MSHCP	Western Riverside County Multiple-Species Habitat Conservation Plan

NCCP	Natural Communities Conservation Plan
NPDES	National Pollutionant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWP	Nationwide Permit
OHWM	ordinary high water mark
PCN	Preconstruction Notice
Project	Clinton Keith Road Extension Project
RTIP	Regional Transportation Improvement Program
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alternative Agreement
SCAG	Southern California Association of Governments
SR	State Route
SWRCB	State Water Resources Control Board
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQMP	Water Quality Management Plan

1.0 Executive Summary

This report presents a description of the Clinton Keith Road Extension Project (proposed Project), a description of the delineation of areas under the jurisdiction of the United States Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWQCB), and an assessment of impacts to these jurisdictional areas from the proposed Project. Avoidance and minimization measures are proposed to reduce those impacts, and mitigation measures are proposed to compensate for impacts.

The proposed Project is located in western Riverside County along the northern jurisdiction of the City of Murrieta and unincorporated Riverside County, between Antelope Road, near Interstate (I)-215 and State Road (SR) 79. The Project consists of constructing a six-lane urban arterial between Antelope Road and SR 79. This would occur along the existing dirt alignment of Clinton Keith Road to the point where it intersects with Los Alamos Road, and then continue easterly on the adopted General Plan alignment to SR 79.

The proposed Project would have impacts to areas under the jurisdiction of the USACE, CDFG, and RWQCB. Most permanent impacts would be avoided or minimized by the construction of bridges to span Warm Springs Creek and French Valley Creek, the largest jurisdictional areas within the Project area; however, some temporary and permanent impacts would occur at these features. In addition, three minor drainages would be directly impacted by the Project. A total of 0.56 acres under the jurisdiction of the USACE, CDFG, and RWQCB is anticipated to be permanently impacted by the proposed Project, with permanent impacts occurring at 5 different locations. An additional 0.30 acres would be impacted by bridge shading. An additional 0.25 acres would be temporarily impacted from construction activities.

A Nationwide Permit Preconstruction Notice (PCN) is anticipated to be submitted to the USACE under Nationwide Permit 14 for linear transportation projects. A Streambed Alteration Agreement is anticipated to be required because of impacts to areas under jurisdiction of the CDFG, and a RWQCB 401 Water Certification would be required for the Project because of impacts to areas under the jurisdiction of RWQCB.

2.0 Introduction

The Riverside County Transportation Department (RCTD), acting on behalf of Riverside County (County) as the California Environmental Quality Act (CEQA) Lead Agency, is proposing the construction of the Clinton Keith Road Extension Project (proposed Project) as a six-lane urban arterial in the City of Murrieta and unincorporated Riverside County. The construction of Clinton Keith Road is needed to provide an east-west urban arterial between Antelope Road, near I-215, and State Route (SR) 79. The regional location of the Project is presented in Figure 1.

2.1 Project Location

The proposed Project is located in western Riverside County along the northern jurisdiction of the City of Murrieta and unincorporated Riverside County. The proposed Project is generally located between I-215 and SR 79. The limits of the Project would occur from Antelope Road (600 feet east of the I-215 interchange) and SR 79 at Benton Road. The proposed Project would occur on existing Clinton Keith Road to the intersection of Los Alamos Road and then continue easterly on the adopted General Plan alignment to SR 79. The location of the proposed Project site is shown in Figure 2.

2.2 Project Background

The current alignment of Clinton Keith Road between I-215 and SR 79 was adopted by the Riverside County Board of Supervisors on December 19, 2000, as County General Plan Amendment (CGPA) 409. This alignment represents a change from the previous General Plan alignment at the time that would have passed directly through a rural residential area. In January 1992, the County formed the Southwest Road and Bridge Benefit District (SWRBBD); Clinton Keith Road is a SWRBBD facility. In February and again in April 1992, a local resident challenged the formation of the SWRBBD based, in part, on objections to the alignment of Clinton Keith Road. The County entered into a settlement agreement that required preparation of both an alternatives analysis and an Environmental Impact Report (EIR) to amend the Circulation Element of the Riverside County General Plan.

The RCTD prepared an Alternatives Analysis Report (P&D Consultants, Inc., 1996); traffic analysis (P&D Consultants, Inc., 1999); a draft EIR (P&D Consultants, Inc., 1997a through c); and a final EIR as required (P&D Consultants, Inc., 2000a, b, and c) by the settlement agreement. The Clinton Keith Road Final EIR No. 398 was certified on December 19, 2000. The preferred alignment evaluated in the 2000 EIR was called the Preferred-Hybrid Alignment. The Preferred-Hybrid Alignment is located north of the existing rural residential community to avoid impacting this area. Following the certification of the 2000 EIR, the Riverside County Board of Supervisors adopted General Plan Amendment 409 on December 19, 2000, for the Preferred-Hybrid Alignment of Clinton Keith Road.

The 2000 EIR evaluated two actions, the formation of the SWRBBD for financing transportation projects in the SWRBBD and the evaluation of alternatives for the construction of Clinton Keith Road at a project level.

2.2.1 Southwest Area Road and Bridge Benefit District

The first component of the 2000 EIR established the SWRBBD at a program or planning level. The SWRBBD collects fees based on the size and type of development to finance the improvement of major thoroughfares and bridges in the Area of Benefit. It also distributes the improvement costs on an equitable basis among the developing properties that would benefit from the improvements. Eligible facilities are those major thoroughfares and bridges that would provide a regional benefit and that are shown on the Circulation Element of the Riverside County General Plan. The proposed Project is within Subarea D of the SWRBBD and would be funded, in part, by SWRBBD.

2.2.2 Clinton Keith Road Project

The second component of the 2000 EIR was the environmental analysis of alternatives for the widening and extension of Clinton Keith Road at a project level. The preferred alternative evaluated in the EIR was based on the Alternatives Analysis Report that provided preliminary analysis of three major alignments and several design options (P&D Consultants, Inc., 1996). The comments received during several public hearings from landowners and local residents resulted in the development and adoption of the Preferred-Hybrid Alignment, a combination of portions of several alignments. The current alignment is acceptable to all parties because it (a) avoided most major impacts to the existing rural residential community and (b) continued to connect to SR 79 at Benton Road.

Since adoption of CGPA 409, the Preferred-Hybrid Alignment has also been incorporated as a Covered Project into the Western Riverside County Multiple-Species Habitat Conservation Plan (MSHCP). This MSHCP was adopted by the Riverside County Board of Supervisors on June 17, 2003; and the U.S. Fish and Wildlife Service (USFWS) issued take authorization to the MSHCP permittees on June 22, 2004. The CDFG also issued NCCP Approval and Take Authorization for the MSHCP as per Section 2800, et seq., of the California Fish and Game Code.

Because traffic demand currently warrants the construction of this portion of Clinton Keith Road, an engineering analysis has been conducted to design the roadway based on the adopted alignment. As a result of traffic and engineering analysis, and an evaluation of local access requirements, slight design modifications of the alignment have been proposed. In addition, new features, including detention basins, a wildlife overcrossing, and improvements to local streets, have been added to the proposed Project. Because of changes in the proposed Project that have occurred since certification of the 2000 EIR, the revised hybrid alignment requires an evaluation of potential environmental impacts under California Environmental Quality Act (CEQA). The RCTD prepared a Supplemental EIR, including a public comment period to address the changes to the proposed Project. The Final Supplemental EIR was adopted by the Riverside County Board of Supervisors on February 7, 2006.

2.3 Project Description

The RCTD has proposed the Clinton Keith Road Extension Project to widen and extend existing Clinton Keith Road from Interstate I-215 to SR 79 at Benton Road consistent with County General Plan Amendment 409 (Figure 2). Clinton Keith Road would be constructed to include six travel lanes, three lanes in each direction, separated by a median. A shoulder, curb, and sidewalk would be constructed adjacent to the outside travel lanes. In addition, local access along the Clinton Keith Road alignment would be reconfigured to ensure that the new roadway can be constructed as a limited access facility. Additional features have been included in the proposed Project. These include two bridges, detention basins, a wildlife overcrossing, new local access roads to properties that would otherwise be severed from adjacent roadways, and improvements to existing local roads or driveways to ensure that local residents can access Clinton Keith Road at designated intersections.

Clinton Keith Road is proposed to be constructed as a six-lane urban arterial between Antelope Road and SR 79 at Benton Road in western Riverside County, in accordance with CGPA 409. Clinton Keith Road currently exists as a paved road from Antelope Road to Meadowlark Lane, and as a dirt road east of Meadowlark Lane to Los Alamos Road. Clinton Keith Road does not currently exist east of Los Alamos Road.

To construct the six-lane urban arterial, the proposed Project would: (1) widen existing Clinton Keith Road between Antelope Road and Los Alamos Road and (2) extend Clinton Keith Road from Los Alamos Road to SR 79 at Benton Road on the adopted alignment described in CGPA 409. Overall, the distance of the proposed Project, including the existing alignment and the extension of the alignment, is approximately 3.4 miles. In addition, several improvements to local streets in this area are also proposed in the proposed Project. Figure 3 shows the typical cross section of the proposed road segment in unincorporated Riverside County and Figure 4 shows the typical cross section of the proposed road segment in the City of Murrieta.

Please refer to the Final Supplemental EIR (January 2006) for a complete project description.

2.3.1 Project Construction Activities

Proposed Project construction is anticipated to be completed over a period of approximately 16 to 24 months. The proposed Project construction work schedule would occur consistent with City and County requirements.

Grading, both cut and fill, would be required to construct the proposed roadway. The grading would consist of developing a 116-foot- or 134-foot-wide roadway, depending on the width of the cross section. Cut and fill slopes outside the roadway surface would have an average slope ratio of 2 horizontal to 1 vertical. Cut slopes would vary in height from 1 foot to 50 feet between Meadowlark Lane and Menifee Road. Fill slopes would vary with an approximate maximum height of 30 feet at the bridge approaches at Warm Springs Creek. Adjustment of slopes may occur to fit slopes in smaller spaces or flatten slopes for aesthetic purposes. All cut and fill grading would occur within the proposed Project impact area. The new slopes and disturbed areas would be revegetated with native plant species consistent with adjacent community types.

A number of culverts or other drainage features would be constructed to maintain the existing flow of water in the proposed Project area. Major drainages at Warm Springs Creek and French Valley Creek would be crossed with bridge structures (Figures 5 and 6). Temporary construction access would be provided at both of these bridge structures to facilitate bridge construction prior to roadway completion. Minor drainages crossing the alignment of Clinton Keith Road would be placed in culverts underneath the roadway and also function as wildlife undercrossings.

Curb and gutter would be constructed on both sides of Clinton Keith Road to capture drainage from the roadway surfaces and convey it to an appropriate outlet.

Onsite flows from Clinton Keith Road near Warm Springs Creek would be outletted into the proposed detention basin east of Warm Springs Creek to allow for settlement of impurities prior to being discharged into Warm Springs Creek. Drainage would also be conveyed to the detention basins located near future Leon Road and Porth Road. Stormwater pollution prevention techniques would be implemented by the construction contractor, as appropriate, to allow for treatment of roadway stormwater runoff prior to it being discharged into an outlet.

In addition, general construction activities for the proposed Project would likely include:

- Mobilizing and preparing the site
- Removing vegetation in the proposed Project impact area
- Stripping soil and stockpiling for future use
- Geotechnical excavating at proposed bridges and cut/fill or retaining wall locations
- Demolishing or removing various items
- Relocating either above- or belowground existing utilities including water, sewer, cable, fiber optic, and some electrical within the proposed Project impact area
- Positioning new utilities within the proposed Project right-of-way including drainage structures and conveyance systems
- Constructing a culvert under Menifee Road 263+50: This undercrossing would occur under Menifee Road, immediately south of the intersection of Clinton Keith Road. At this location, a 24-inch reinforced concrete pipe (RCP) would be constructed under the roadway for both drainage and as a wildlife crossing. Natural light portals would be provided in this crossing, consisting of three glass skylights, one located in each road shoulder, and one in the median or by other similar or improved method.
- Constructing other culverts under Clinton Keith Road, as determined by appropriate drainage analysis. A total of at least three other culvert locations include a 42-inch RCP, a 60-inch RCP, and two 24-foot by 9-foot reinforced concrete boxes (RCB). Culverts would be constructed under the roadway both for drainage and for wildlife crossings. Natural light portals would be provided at all culverts, consisting of three glass skylights, one located in each road shoulder, and one in the median or by other similar or improved method.
- A total of three detention basin would be constructed to capture and retain stormwater (see description later in this report).

- Excavating and grading the roadway
- Structural excavating and foundation drilling for driven pile option or drilling holes for cast-in-drilled-hole (CIDH) pile option at bridges
- Implementing measures to minimize noise impacts during pile driving or drilling
- Constructing the bridge foundation, abutments, bents, girders, deck, and approaches
- Constructing various structures, utilities, curb, gutter, sidewalk, fencing, retaining walls, and sound walls
- Placing temporary erosion control measures (such as silt fence, hay bales, and inlet filters) and constructing stormwater drainage features

Reseeding and/or restoring exposed soils after construction is complete

2.3.2 Construction at Jurisdictional Crossings

A description of the bridges structures and other facilities that occur at jurisdictional crossings are provided below. The locations of the crossings discussed below are shown in Figure 7.

2.3.2.1 Roadway Construction at Station 262+50 (Crossing A)

Design for drainage at Crossing A has been developed, based on overall drainage analysis for this area. Water will be graded away from the roadway at this location and conveyed to the east to an east-west culvert under Menifee Road, which runs north-south, intersecting with Clinton Keith at Station 263+50. From the east side of Menifee Road, the flow path is constrained by a Southern California Edison easement in this location. Because of this, water will be piped to the east to the culvert at Station 269+00. At this location, water will be conveyed via a 60-inch RCP across Clinton Keith Road, eventually joining the original drainage.

Where the footprint of the roadway overlaps with the drainage at Crossing A, the site would be graded and filled to appropriate elevations to provide a base surface for placement of the proposed roadway.

2.3.2.2 Roadway Construction at Station Station 277+18 (Crossing B)

At Station 277+18 (Crossing B) a culvert would be constructed under Clinton Keith Road. At this location, a 48-inch RCP would be constructed under the roadway. Natural light portals would be provided in this crossing, consisting of three glass skylights, one located in each road shoulder, and one in the median or by other similar or improved method. The RCP culvert would extend beyond the roadway as appropriate on both the upstream and downstream sides to headwalls. The culvert intake and discharge would be located in these headwalls, protected with rock slope protection on both sides of the roadway. Adjacent upstream and downstream slopes would be graded to drain to or away from these features. Appropriate fill would be placed over the culvert structure to provide a base surface for placement of the proposed roadway.

2.3.2.3 Warms Springs Creek Bridge (Crossing C)

The Warm Springs Creek bridge (at Crossing C) is a three-span bridge with a total length of approximately 360 feet (Figure 5). The bridge structure would begin at approximately Station 299+95 and end at Station 303+55 (refer to SEIR for station numbering). The bridge type is a cast-in-place, prestressed concrete box girder supported on multicolumn bents. The superstructure is supported on two abutments and two bents. Each bent consists of four columns that would be supported on a large-diameter, CIDH shaft. Both abutments would be seat type with an open-ended configuration. The abutments would be carried on pilecaps that would be supported on small-diameter CIDH piles. Rock slope protection would be placed along abutments at both sides of the bridge. The minimum vertical clearance between the roadway deck soffit and the 100-year high water elevation is approximately 34 feet near Bent 3. A fence would be placed at/near the toe of slope or along the edge of the right-of-way adjacent to this bridge. One-way wildlife doors would be inserted into this fence.

In addition to the bridge at Crossing C, the alignment of the roadway would extend east from the bridge over a tributary to Warm Springs Creek which is in itself jurisdictional (see below). Where the footprint of the roadway overlaps with the tributary, the site would be graded and filled to appropriate elevations to provide a base surface for placement of the proposed roadway.

2.3.2.4 French Valley Creek Bridge (Crossing D)

The French Valley Creek bridge (at Crossing D) is a single-span bridge with a total length of approximately 180 feet (Figure 6). The bridge structure would begin at approximately Station 363+80 and end at Station 365+60. The bridge type is a cast-in-place, prestressed concrete box girder. The bridge would be supported by two-seat type abutments with open-ended configuration supported on steel pile foundations. Rock slope protection would be placed along abutments at both sides of the bridge. The minimum vertical clearance between the roadway deck soffit and the 100-year high water elevation is approximately 9 feet. A fence would be placed at/near the back of the sidewalk adjacent to this bridge.

Rock slope protection would be placed along abutments at both sides of the bridge.

2.3.2.5 Construction Activities in Jurisdictional Areas

Construction in jurisdictional waters would generally following the following schedule:

- Crossing A (infill): Preliminary grading and infilling, 3 to 6 weeks; adjacent drainage facility construction, 4 to 8 weeks;
- Crossing B (culvert): Preliminary grading, culvert construction and infilling, 4 to 8 weeks;
- Crossing C (Warm Springs Bridge and roadway): Preliminary grading and preparation, 3 months; concrete abutments, piles, and rip rap, 6 months; bridge platform, 3 months;
- Crossing D (French Valley Creek Bridge): Preliminary grading and preparation, 2 months; concrete abutments, piles, and rip rap, 5 months; bridge platform, 3 months.

Work within wet channels will be avoided by the following measures: (1) timing construction to avoid periods of activity within the channel when there is channel flow, or when there is not a clear 3-day weather forecast; or, (2) constructing temporary berms to isolate the stream flow from falsework or other construction activities.

Equipment employed in implementing construction at these locations may include the following:

- Tracked or wheeled excavators;
- Bulldozers;
- Graders;
- Scrapers;
- Dump trucks;
- Mobile crane;
- Welding equipment;
- Concrete pump trucks;
- Pile driver;
- CIDH drill rig;
- Cutting torch;
- Sheep-foot vibratory roller;
- Generators.

2.4 Purpose of Report

This report presents the results of a delineation of areas under the jurisdiction of the USACE, CDFG, and RWQCB that would be impacted by the proposed Project. The Project study area was evaluated for the presence of USACE jurisdictional waters of the United States (U.S.), including wetlands, CDFG jurisdictional streambed and bank, and adjacent riparian corridors. In areas where USACE jurisdiction limits are at the same location of CDFG jurisdictional limits, the Project impact area is the same quantity for each agency. For this Project, the jurisdictional area of the RWQCB is considered to be the jurisdictional area of the USACE. Perennial water bodies are not present within the Project study area, and groundwater impacts are not being evaluated as part of this report. It is for this reason that subsequent discussions would only describe the differences in the jurisdictional boundaries of the USACE and the CDFG. When referencing all three of these agency jurisdictions, the term “jurisdictional areas” would be used within the text of the report.

This report presents the following:

- A description of the proposed Project
- A summary of applicable natural resource laws and regulations
- A description of the methodologies used in this assessment
- A description of the Project setting
- A delineation of the jurisdictional areas of the USACE, CDFG, and RWQCB

- An estimate of Project impacts
- Avoidance, minimization, and mitigation measures for the proposed Project for impacts to jurisdictional areas
- Appropriate figures and tables to support the above content
- Photographs of jurisdictional stream crossings

3.0 Natural Resource Laws and Regulations

3.1 Permit and Regulatory Requirements

This section describes the permits and agreements required under associated aquatic natural resource laws and regulations for the Project.

3.1.1 Federal Regulations

3.1.1.1 Clean Water Act

The Clean Water Act (CWA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's water. The act sets up a system of water quality standards, discharge limitations, and permit requirements. Permits associated with Sections 401, 402, and 404 of the CWA (described below) are anticipated to be required for the Project.

3.1.1.2 Section 401

Section 401 of the CWA, governed by 33 United States Code (USC) 1341 and 40 Code of Federal Regulations (CFR) 121, requires a water quality certification from the State Board or Regional Board when a project (1) requires a federal license or permit (such as a Section 404 permit) and (2) will result in a discharge to waters of the U.S. The certification may be conditioned. Project activities that typically result in a discharge subject to Section 401 water quality certification are the construction and subsequent operation of a facility.

The State Water Resources Control Board (SWRCB) revised state regulations for the 401 Water Quality Certification Program; these revisions went into effect on June 24, 2000. The likelihood of a passive waiver has been reduced by the revised regulations.

3.1.1.3 Section 402

Section 402 of the CWA, governed by 33 USC 1342 and 40 CFR 122, establishes a permitting system for the discharge of any pollutant (except dredge or fill material) into waters of the U.S. A National Pollutant Discharge Elimination System (NPDES) permit is required for all point discharges of pollutants to surface waters. A point source is a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel.

3.1.1.4 Section 404

Section 404 of the CWA, governed by 33 USC 1344 and 33 CFR 323, establishes a permit program administered by the USACE regulating the discharge of dredged or fill material into waters of the U.S., including wetlands. The Section 404 (b)(1) guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that will have fewer adverse impacts. The CWA amended the federal Water Pollution Control Act of 1972. The USACE has pre-authorized a number of activities in the

Nationwider Permit Program (NWP), assuming activities meet a number of general and specific conditions.

It is anticipated that NWP 14 is applicable to the Project for impacts to waters of the U.S.

NWP 14 – Linear Transportation Projects

NWP 14 authorizes activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, airport runways, and taxiways) in waters of the U.S., including wetlands, if the activity meets the several specific criteria. NWP 14 is subject to the following acreage limits:

- Linear transportation projects in nontidal waters, provided the discharge does not cause the loss of greater than 1/2-acre of waters of the U.S.
- Linear transportation projects in tidal waters, provided the discharge does not cause the loss of greater than 1/3-acre of waters of the U.S.

The permittee must notify the District Engineer if any of the following criteria are met:

- The discharge causes the loss of greater than 1/10-acre of waters of the U.S.
- There is a discharge in a special aquatic site, including wetlands.

The notification must include a compensatory mitigation proposal to offset permanent losses of waters of the U.S. to ensure that those losses result only in minimal adverse effects to the aquatic environment and a statement describing how temporary losses would be minimized to the maximum extent practicable. For discharges in special aquatic sites, including wetlands, and stream riffle and pool complexes, the notification must include a delineation of the affected special aquatic sites.

The width of the fill within waters of the U.S. must be limited to the minimum necessary for the crossing. NWP 14 does not authorize stream channelization, and the authorized activities must not cause more than minimal changes to the hydraulic flow characteristics of the stream, increase flooding, or cause more than minimal degradation of water quality of any stream. NWP 14 cannot be used to authorize nonlinear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

3.1.1.5 Executive Order 11990: Protection of Wetlands

Executive Order 11990 establishes a national policy to avoid adverse impacts on wetlands wherever there is a practicable alternative for federally undertaken, financed, or assisted projects. On federal projects, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot by avoided, then all practicable measures to minimize harm must be included.

3.1.2 State Regulations

3.1.2.1 California Fish and Game Code, Section 1600

Section 1600 of the Fish and Game Code regulates the alteration of the bed, bank, or channel of a stream, river, or lake, including dry washes. Generally, the California Department of

Fish and Game (CDFG) asserts jurisdiction up to the top of bank cuts, or to the outside of any riparian vegetation associated with a watercourse. Activities that have the potential to affect jurisdictional areas can be authorized through issuance of a Streambed Alteration Agreement (SAA). The SAA specifies conditions and mitigation measures that would minimize impacts to riparian resources from proposed actions.

CDFG maintains the state's responsibility under CEQA and the California Endangered Species Act (CESA) to comment on potential impacts to special-status species. They also are responsible for project compliance with the CESA and must be consulted if impacts to state-listed species are likely to occur. An SAA would be required for the Project for impacts to the bed and bank of CDFG jurisdictional areas.

3.1.2.2 California Water Code

The state enforces federal water quality protection programs for which they have been delegated authority under the California Water Code and implementing regulations. The Porter-Cologne Water Quality Control Act provides a comprehensive statewide system for water pollution control that included designation of the SWRCB and nine Regional Boards covering the entire State of California. Under the Porter-Cologne Act, the SWRCB is responsible for adopting water quality standards as required to fulfill the state's responsibilities under the CWA (Sections 401 and 402).

3.1.3 Local Regulations

3.1.3.1 Western Riverside County Multiple Species Habitat Conservation Plan

Background

The MSHCP was adopted June 17, 2004. This is a comprehensive, multijurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their habitats in western Riverside County. The MSHCP will serve as an HCP pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973 (FESA) as well as a Natural Communities Conservation Plan (NCCP) under the state NCCP Act of 2001. USFWS issued the permit (TE088609-0) for the MSHCP on June 22, 2004. The CDFG also issued NCCP Approval and Take Authorization for the MSHCP as per Section 2800, et seq., of the California Fish and Game Code. As indicated in these permits, the MSHCP provides for "take" of covered plant and wildlife species identified within the MSHCP area based on the conditions set forth in the special terms and conditions of the permit; the Implementation Agreement; and the MSHCP, including its associated volumes and the errata letter dated May 21, 2004, in that order. Consequently, implementation of the MSHCP alters the regulatory approach to the proposed Project approval in regards to biological resource impact analysis and mitigation.

Mitigation measures are being developed for impacts to jurisdictional areas from the proposed Project according to Section 6.1.2 of the MSHCP requiring compliance with Determination of Biologically Equivalent or Superior Preservation for Riverine/Riparian Areas and Vernal Pools. A summary of the required information for the Project is provided in Table 1 below.

TABLE 1
Determination of Biologically Equivalent or Superior Preservation for Riverine/Riparian Areas and Vernal Pools

Item	MSHCP Section 6.1.2 Required Information	Location of Information or Summary Response in the Final SEIR (January 2006)
1	Definition of the project area	Please see Section 2.0 Project Description for a full definition of the proposed Project
2	A written project description, demonstrating why an avoidance alternative is not possible	Please see Section 3.5.2.2.1 Construction, Potential Impacts to Jurisdictional Areas Designing the roadway in jurisdictional areas included a process of identifying ways to first avoid, then minimize, then mitigate impacts to jurisdictional areas. Because of the purpose of the Project, to extend Clinton Keith Road from I-215 to SR 79, crossing of Warm Springs Creek and French Valley Creek could not be avoided as the roadway is planned in an east-west direction, and the creeks run in a north-south direction. However, substantial effort and cost has been incorporated into the Project to cross these creeks with the most minimal impact. In most major stream crossings (i.e. Warm Springs Creek and French Valley Creek), impacts would be completely avoided or minimized by proposed Project design. Where impacts would not be avoided or minimized, they would be mitigated by Mitigation Measure B-2 to below a level of significance.
3	A written description of biological information available for the project site including the results of resource mapping	Please see section 3.5.1.2 Affected Environment including associated tables and figures.
4	Quantification of unavoidable impacts to riparian/riverine areas and vernal pools associated with the project, including direct and indirect effects	Please see Table 3.5-9: Estimated Impacts to Jurisdictional Areas on the Proposed Project This table quantifies direct, indirect, temporary and permanent impacts. Please see Section 3.5.2.2.1 Construction, Potential Impacts to Jurisdictional Areas for a text description. It should be noted that minimal impacts to riparian areas are anticipated. No impacts to vernal pools would occur.
5	A written description of project design features and mitigation measures that reduce indirect effects, such as edge treatments, landscaping, elevation difference, minimization and/or compensation through restoration or enhancement	Project design features have been incorporated to minimize indirect impacts. Please see Mitigation Measures B-1B (Construction Guidelines), B-1C (Best Management Practices), B-1D (Fuel Management), and B-1E Urban Wildlands Interface for their description.

TABLE 1
Determination of Biologically Equivalent or Superior Preservation for Riverine/Riparian Areas and Vernal Pools

Item	MSHCP Section 6.1.2 Required Information	Location of Information or Summary Response in the Final SEIR (January 2006)
6	A finding demonstrating that although the proposed project would not avoid impacts, with proposed design and compensation measures, the project would be biologically equivalent or superior to that which would occur under an avoidance alternative without these measures, based on one or more of the following factors:	No response required.
7	effects on Conserved Habitats;	Please see Table 3.5-7 Temporary and Permanent Impacts to Vegetation Communities and Land Cover from the Proposed Project and the associated text in Section 3.5.2.2.1 Construction, Potential Impacts to Vegetation Communities. The Project will increase the amount and quality of riparian habitat in Proposed Core 2 by implementing Mitigation Measure B-2.
8	effects on the species listed above under the heading, “Purpose”; and	Please see Table 3.5-6 for information on effects on these species. The following species were not included in Table 3.5-6, because no impact was anticipated. These include, Amphibians (mountain yellow-legged frog), Birds (bald eagle, western yellow-billed cuckoo), Plants (Brand’s phacelia, Coulter’s matilija poppy, Fish’s milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, prostrate navarretia, San Jacinto Valley crownscale, Santa Ana River woolly-star, vernal barley). Impacts to California black walnut and Engelmann oak may occur.
9	effects on riparian Linkages and function of the MSHCP Conservation Area	Both Proposed Core 2 and Proposed Constrained Linkage 18 contain conservation objectives for corridor movement and riparian habitat conservation. Warm Springs Creek occurs within Proposed Core 2 and French Valley Creek occurs within Proposed Linkage 18. Both of these drainages are within the Project impact area. Wildlife movement would be maintained with the construction of two large bridge structures over these drainages. Also, the riparian habitat along Warm Springs Creek would be avoided. Please see Section 3.5.2.2.1 Construction, Potential Impacts to Jurisdictional Areas for additional information. Project design features have been incorporated to minimize indirect impacts. Please see Mitigation Measures B-1B (Construction Guidelines), B-1C (Best Management Practices), B-1D (Fuel Management), and B-1E Urban Wildlands Interface for their description.

4.0 Delineation Methodology

4.1 Preliminary Data Gathering

Prior to conducting field surveys, the following sources were reviewed to locate potential jurisdictional areas along the proposed Project alignment:

- U.S. Geological Survey (USGS) 7.5-minute series USGS Topographic Quadrangle Maps
- U.S. Department of Agriculture (USDA). Soil Survey of Western Riverside Area, California. November 1971
- USDA. List of Hydric Soils for California
- Preliminary Project site photographs
- Aerial photographs of the Project study area
- Report entitled "Jurisdictional Delineation of Waters, APN's 958-230-014, -015, -016, -017, Murrieta, California; prepared by M.J. Klinefelter, August 26, 2003
- Review of Clean Water Act Section 303(d) Impaired Waterbodies and Total Maximum Daily Load requirements.

These sources were consulted to determine the potential types and locations of existing drainages and wetlands in the Project vicinity. These sources were used as tools to assist in the field evaluation described in Section 4.2, but were not used to eliminate any areas from potential field review.

4.2 Field Survey

The field survey encompassed the study area of the roadway alignment between Antelope Road and SR 79. The study area for the field survey is depicted in Figures 2, 7, 7a, 7b, 7c and 7d. The preliminary survey indicated that the proposed roadway would cross two named seasonal creeks (Warm Springs Creek and French Valley Creek). These creeks and other drainages within the Project area were investigated to determine whether they are under the jurisdiction of the USACE, CDFG, and RWQCB.

The identification and delineation of jurisdictional areas was conducted on December 11, 2002; January 29, 2003; and March 25, 2003. This was completed to review the Project area for changes in the jurisdictional boundaries from the rainfall events that occurred on March 15th and 16th. Any changes in the jurisdictional limits were updated and included in this document. An additional field survey and delineation were conducted on June 18 and 22, 2004 to evaluate areas along French Creek at Briggs and Porth Roads; these areas were included to accommodate changes in the proposed Project in these areas. The County obtained property access through written agreements with landowners or a Court Order to all Project parcels.

The location of sites where jurisdictional delineations were conducted is presented in Figure 7. Specific delineation results for each site are presented in the corresponding Figures 7a, 7b, 7c or 7d. Figure 7a contains data on Crossing A'1. Figure 7b contains data on unnamed crossings, herein referenced as Crossing A, Crossing A'2, and Crossing B, as well as Crossing F. Figure 7c contains data on the crossing at Warm Springs Creek, and three adjacent tributaries is referred to as Crossing C. Figure 7d contains data on the crossing at French Valley Creek and is identified as Crossing D. Crossing E, on Figure 7d, represents the roadway improvements proposed for Porth Road which crosses French Valley Creek.

During the field evaluation, the limits of the jurisdictional areas were identified and recorded by a global positioning system (GPS) and mapped on rectified aerial photographs. All GPS data was collected using a Trimble ProXRS unit, which records points at submeter accuracy. The data is presented on aerial maps from June 2002 used by the Project. Note that aerial photographs are not always accurately rectified and may show some skew; hence, when enlargements of the aerials are shown, the GPS and roadway alignment data are shown in their real world coordinates, and may not line up with features visible on the skewed aerial photographs.

Vegetation occurring approximately 50 feet outside the existing top of the bank on either side of stream channels also was noted during the field surveys. In addition, during the field survey, channel widths and the type and extent of vegetation were mapped on an aerial map. Color photographs were taken at each delineation site. The site photographs are presented in Appendix A.

4.2.1 Waters of the United States

All waters/wetlands identified in the proposed Project area were delineated using the methodology in the *Corps of Engineers Wetlands Delineation Manual* (USACE, 1987), and based on guidance provided in *Final Summary Report: Guidelines For Jurisdictional Determinations For Waters Of The United States In The Arid Southwest* (USACE, 2001). The delineation of areas potentially within USACE jurisdiction included those areas within the ordinary high water mark (OHWM). The proposed jurisdictional limits were delineated at the OHWM as identified by sediment lines, debris marks, natural banks, or changes in vegetation.

4.2.2 CDFG 1600 Jurisdictional Areas

Waters under the jurisdiction of the CDFG include the bed, bank, or channel of a stream, river, or lake, including dry washes. Typically, the CDFG asserts jurisdiction up to the top of bank cuts, or to the outside of any riparian vegetation associated with a watercourse. The proposed jurisdictional limits for the CDFG were delineated at the bank of the watercourses, except in areas where riparian vegetation extended beyond the bank. In this situation, the jurisdictional limit extended to the outside perimeter of the riparian corridor drip line. As discussed above, the jurisdictional area of the RWQCB is assumed to be the same area as the jurisdictional area of the USACE, described above as waters of the U.S.

4.3 French Valley Creek Delineation (Crossing D)

French Valley Creek at Briggs Road had been delineated during a previous permitting effort; this delineation was reported in Klinefelter (2003). The delineation GIS files were obtained from this delineation, and this data was used to identify the limits of waters of the U.S. and CDFG jurisdictional areas along French Valley Creek at Briggs Road. This delineation was conducted by standard methodology on several dates in May, 2003 and one day in August, 2003. Four parcels along French Valley Creek were evaluated encompassing a total of 76.9 acres.

5.0 Project Setting

5.1 Habitat Description

5.1.1 Unnamed Tributaries to Warm Springs Creek (Crossings A, B, and F)

An unnamed tributary to Warm Springs Creek (Crossing A) is a narrow excavated channel with low-growing forbs and grasses. A second unnamed tributary to Warm Springs Creek (Crossing B) is a combination of a natural and an excavated channel. The banks of Crossing B contain widely spaced trees and shrubs with a sparse understory cover of forbs and grasses. These trees and shrubs appear to have been planted as landscaping. Crossing F is an open channel vegetated with upland species with intermittent flow and no wetlands present. Crossings A'1 and A'2 represent a well-vegetated tributary to Warm Springs Creek which is close to the Project location in two locations, but is not directly within the Project footprint. This channel has scattered riparian species including willows (*Salix* sp.).

5.1.2 Warm Springs Creek and Unnamed Tributaries (Crossing C and Tributaries 1, 2, and 3)

Riparian habitats are present within and adjacent to Warm Springs Creek (Crossing C) and an adjacent major tributary to Warm Springs Creek (Tributary 1). Vegetation within and adjacent to Warm Springs Creek and this tributary is typical of riparian habitats in the region and includes canopy species such as cottonwood (*Populus* sp.), willow (*Salix* sp.), and mulefat (*Baccharis salicifolia*). Stream flow in Warm Springs Creek and its tributaries is intermittent. Tributaries 2 and 3 to Warm Springs Creek in the vicinity of Crossing C are vegetated with upland herbaceous and scrub species.

5.1.3 French Valley Creek

French Valley Creek (Crossings D and E) is a natural intermittent stream with moderate to dense herbaceous vegetation along the banks and stream bottom.

5.2 Hydrology

Watercourses encountered along the proposed Clinton Keith Road alignment derive their hydrology primarily from precipitation. All of the creeks identified during the reconnaissance field survey are intermittent/seasonal creeks, although wet conditions persist in some creeks well into the dry season. The principal drainage feature in the Project area is Warm Springs Creek. Most small drainages in the northern and western portions of the Project area flow to Warm Springs Creek. French Valley Creek drains the eastern portion of the Project area. Both Warm Springs Creek and French Valley Creek flow southwesterly. A few miles south of the Project area, French Valley Creek converges with Warms Springs Creek. Warm Springs Creek continues to flow south into Murrieta Creek, joining it near the city of Murrieta. Murrieta Creek flows southerly to join up with Temecula Creek near

Temecula to form the Santa Margarita River. The Santa Margarita River flows westerly to the Pacific Ocean, discharging to the ocean on Camp Pendleton Marine Base.

The existing drainage studies were reviewed within the Project area as part of a hydrology analysis. The studies include those related to the developments of County of Riverside Specific Plan No. 284 (Quinta Do Lago) and No. 312 (French Valley), and Tentative Tract No. 29484, the County of Riverside Flood Control District Murrieta Creek Area Drainage Plan, and a USACE floodplain study for Warm Springs Creek. Preliminary hydrologic and hydraulic analyses were completed for Warm Springs Creek and French Valley Creek. These analyses include estimations of 100-year, return-period peak discharge flows for each, and related computer modeling (HEC-RAS) of the channels. For two additional minor drainages (Crossings A and B)modeling was not conducted due to their limited capacity to convey storm flows as determined through field inspection, examination of United States Geological Survey (USGS) topographic data, and Riverside County topographic maps. A more complete description of hydrologic modeling is provided in the Supplemental EIR (January 2006).

5.3 Soils

According to the soil surveys for the western Riverside County area, the proposed alignment traverses several types of soil series, including Chino silt loam, Cajalco fine sandy loam, Honcut sandy loam, Cieneba rocky sandy loam, Wyman loam, Las Posas loam, Bosanko clay, Hanford coarse sandy loam, and Greenfield sandy loam. For each delineation site, a description of the soil is provided as described in the Western Riverside Area Soil Survey. None of these soils are listed by the USDA Natural Resources Conservation Service as a hydric soil in California.

5.4 Water Quality

Five drainages, including Warm Springs Creek and French Valley Creek, cross the proposed Project site as shown in Figure 7. Two of these drainages cross the proposed Project site in culverts.

5.4.1 Regional Water Quality Control Board Basin Plan

The proposed Project site is in the Santa Margarita Hydrologic Unit. The Basin Plan includes beneficial use designations for Warm Springs Creek and French Valley Creek. The other drainage crossings do not have designated beneficial uses, however, because they are tributaries to Warm Springs Creek, the Warm Springs Creek beneficial uses apply to these tributaries. The beneficial uses of Warm Springs Creek and French Valley Creek are the same, and include the following designations: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Non-Contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), and Wildlife Habitat (WILD). Contact Water Recreation (REC 1) is a potential beneficial use.

5.4.2 Flood Control Infrastructure and Murrieta Creek Master Drainage Plan

The proposed Project site is in a rural area, and an extensive storm drain system does not exist in or adjacent to the proposed Project site. The existing drainage facilities on the proposed Project site consist of culverts under Clinton Keith Road and Briggs Road (Riverside County Flood Control and Water Conservation District, 2004). No other flood control infrastructure is present along the drainages within the proposed Project impact area. The Riverside County Flood Control and Water Conservation District does not operate any facilities within the proposed Project site. The Murrieta Creek Master Drainage Plan does not include any proposed facilities in the proposed Project area. The Riverside County Flood Control and Water Conservation District operates and maintains facilities downstream of the proposed Project along Warm Springs Creek and Murrieta Creek.

5.4.3 Impaired Water Bodies

French Valley Creek and Warm Springs Creek are not listed as impaired by the San Diego Regional Water Quality Control Board 2002 CWA Section 303(d) Water Quality Limited Segments ("303d list"). However, both creeks are tributaries to Murrieta Creek and ultimately the Santa Margarita River. Both Murrieta Creek and the upper Santa Margarita River are listed as impaired water bodies under the 303d list. A 12-mile segment of Murrieta Creek, from its confluence with Temecula Creek where it forms the Santa Margarita River upstream to just south of Wildomar, is listed as low priority with phosphorus as the pollutant/stressor. An 18-mile reach of the Santa Margarita River, from the confluence of Temecula Creek and Murrieta Creek (which form the Santa Margarita River) downstream to the Pacific Ocean, is listed as low priority with phosphorus as the pollutant/stressor.

6.0 Delineation Results

Eight intermittent stream sites (Crossings A, A'1, A'2, B, C, D, E, and F) were documented as occurring within the Project study area during the field survey. Jurisdictional wetlands were present within the Project study area at only one location (French Valley Creek at Crossing D), as delineated by Klinefelter (2003).

6.1 Description of Jurisdictional Areas

A description of each of the jurisdictional areas within the proposed Project study area is presented in Table 2. More detailed descriptions are provided in the following text. The descriptions are presented from west to east, along the proposed Clinton Keith Road, beginning at Antelope Road and ending at SR 79. The proposed limits of jurisdiction are presented in Figure 7a for Crossing A'1, Figure 7b for Crossings A, A'2, B, Figure 7c for Warm Springs Creek (Crossing C), and Figure 7d for French Valley Creek (Crossing D and E).

6.1.1 Unnamed Tributary to Warm Springs Creek (Crossing A)

An unnamed tributary to Warm Springs Creek (Crossing A) is located immediately west of the intersection of Clinton Keith Road and Menifee Road. This location is depicted on Figure 7b. This jurisdictional area arises from a narrow intermittent drainage established from local surface drainage on the south side of Clinton Keith Road and crosses the roadway via a single 12-inch-diameter culvert into an excavated channel connecting to a tributary to Warm Springs Creek.

The drainage on the south side of Clinton Keith Road is very narrow and is not excavated. There is no distinct bank, but limited evidence of water flow was visible on the March 25, 2003, site visit. The OHWM at this location defines the jurisdictional areas of the USACE, CDFG, and RWQCB. The area within the jurisdictional area consists of low-growing forbs and grasses. The adjacent vegetation consists of Riversidean sage scrub, dominated by buckwheat plants.

The main jurisdictional area at this crossing is located on the north side of Clinton Keith Road. The width of the excavated channel on the north side of Clinton Keith Road is approximately 6 feet for the majority of the length. The top of the bank (no adjacent riparian corridor was present) and the OHWM are at the same location, thus the jurisdictional areas of the USACE, CDFG, and RWQCB are considered the same area. The areas along the edge of the channel consist of low-growing forbs and grasses. This channel flows only in response to rainfall events. Photographs of Crossing A can be reviewed in Appendix A, Site Photographs 1 and 2.

TABLE 2
Jurisdictional Areas on the Proposed Project

Designation	Jurisdictional Water	General Description	Habitat Description	Jurisdictional Determination	Assessment for MSHCP Riparian/Riverine Species
Crossing A	Unnamed Tributary to Warm Springs Creek	Narrow intermittent drainage channel; conveys storm flows from local surface drainage through 12-inch culvert under existing road.	Upland vegetation of low-growing forbs and grasses; adjacent to Riversidean sage scrub, dominated by buckwheat. Flows in response to storm events only; no persistent surface water.	USACE, CDFG, RWQCB	No aquatic or riparian habitat present within Project impact area. No potential to support riparian/riverine species. Adjacent riparian habitat in tributary to Warm Springs Creek not impacted.
Crossing A'1 and Crossing A'2	Tributary to Warm Springs Creek	Does not cross road alignment and would not be impacted by proposed Project. Close to the roadway in two locations.	Substantial riparian forest with persistent surface water.	USACE, CDFG, RWQCB	May support riparian and aquatic species, however, outside of proposed Project impact zone.
Crossing B	Unnamed Tributary to Warm Springs Creek	Intermittent surface and roadside drainage; crosses Clinton Keith Road with a single 18-inch-diameter culvert; channel ranges from 1 to 6 ft across.	Vegetated with a combination of grasses and low herbaceous species; ornamental trees on the banks. Flow in response to storm events only, with no persistent surface water.	USACE, CDFG, RWQCB	No aquatic or riparian habitat present. No potential to support riparian/riverine species.
Crossing C	Warm Springs Creek – Main Channel	Banks vary from steep, cut banks to gentle banks with areas of overbank flooding; the width of the OHWM varies from 20 to 40 ft; riparian corridor ranges from 50 to 100 ft; three 36-inch culverts are present at the current crossing of Warm Springs Creek at Los Alamos Road.	Dense, natural riparian corridor of cottonwood (*Populus* sp.), willow (*Salix* sp.), and mulefat (*Baccharis salicifolia*). Seasonal flows. No persistent surface water in dry season.	USACE, CDFG, RWQCB	Riparian habitat present with potential to support riparian bird species. Focused riparian bird species surveys conducted; results negative. Adjacent riparian habitat in tributary to Warm Springs Creek not impacted.

TABLE 2
Jurisdictional Areas on the Proposed Project

Designation	Jurisdictional Water	General Description	Habitat Description	Jurisdictional Determination	Assessment for MSHCP Riparian/Riverine Species
Crossing C (Tributary 1)	Warm Springs Creek – Tributary 1	Feeds Warm Springs Creek from the west.	Dense willow riparian corridor and an obvious OHWM. Seasonal flows. No persistent surface water in dry season.	USACE, CDFG, RWQCB	Riparian habitat present with potential to support riparian bird species. Focused riparian bird species surveys conducted; results negative
Crossing C (Tributary 2)	Warm Springs Creek – Tributary 2	Tributary 2, entering the east bank of Warm Springs Creek, collects local rainfall from the adjacent hillsides; narrow drainage is up to 2 ft in width, extending for about 1,200 ft.	Does not support riparian vegetation; all adjacent vegetation is consistent with the surrounding upland vegetation of California buckwheat and chamise. Flows in response to storm events only; no persistent surface water.	USACE, CDFG, RWQCB	No aquatic or riparian habitat present. No potential to support riparian/riverine species.
Crossing C (Tributary 3)	Warm Springs Creek – Tributary 3	A third tributary is south of Tributary 2 on the east bank of Warm Springs Creek; consists of a small wash that drains the adjacent slopes, extending no more than 50 ft from Warm Springs Creek.	Surrounding upland vegetation dominates channel consisting of California buckwheat and chamise. Flows in response to storm events only; no persistent surface water.	USACE, CDFG, RWQCB	No aquatic or riparian habitat present. No potential to support riparian/riverine species.

TABLE 2
Jurisdictional Areas on the Proposed Project

Designation	Jurisdictional Water	General Description	Habitat Description	Jurisdictional Determination	Assessment for MSHCP Riparian/Riverine Species
Crossing D	French Valley Creek	French Valley Creek flows in two 36-inch culverts beneath Briggs Road; evidence of overbank flooding out of channel but evidence of wetlands is limited to areas within the channel; the limit of the ordinary high-water mark (OHWM) was delineated, and ranges from 40 to several hundred feet wide; water flows intermittently, but pools within the channel persist into spring and summer.	Channel dominated by tamarisk (*Tamarix* sp.), saltgrass (*Distichlis spicata*), alkali heath (*Frankenia salina*), bulrush (*Scirpus* sp.), tobacco tree (*Nicotiana glauca*); adjacent upland dominated by Russian thistle (*Salsola* sp.), prickly lettuce (*Lactua serriola*), mustard (*Brassica campestris*), and other weedy species; adjacent wetlands are present within channel. Seasonal flows. Persistent surface water through late spring, but generally dry in summer season.	USACE, CDFG, RWQCB; adjacent wetlands within bottom of channel	May support amphibians; however, no listed species recorded in area, and not within MSHCP survey area for listed amphibians. Native riparian habitat is patchy and not well developed.
Crossing E	French Valley Creek	French Valley Creek flows in two 24-inch culverts beneath Porth Road; evidence of overbank flooding out of channel but no evidence of wetlands; the limit of the OHWM is approximately 30 ft wide; water flows intermittently, but pools within the channel persist into spring and summer.	Channel dominated by tamarisk, saltgrass, alkali heath, bulrush, tobacco tree; adjacent upland dominated by Russian thistle (*Salsola* sp.), mustard (*Brassica campestris*), and fallow agricultural fields; adjacent wetlands are present within channel. Seasonal flows. Persistent surface water through late spring, but generally dry in summer season.	USACE, CDFG, RWQCB; adjacent wetlands within bottom of channel	Habitat is present downstream, which may support amphibians; however, no listed species recorded or expected in area. Native riparian habitat is patchy and not well developed.
Crossing F	Potential Tributary to Warm Springs Creek	Open vegetated channel; no standing water or wetlands present.	Upland vegetation of low-growing forbs and grasses; adjacent to Riversidean sage scrub dominated by buckwheat. Flows in response to storm events only; no persistent surface water.	USACE, CDFG, RWQCB	No aquatic or riparian habitat present, and no potential to support riparian/riverine species.

6.1.1.1 Soils Occurring at the Unnamed Tributary to Warm Springs Creek (Crossing A)

Greenfield sandy loam, 2 to 8 percent slopes, eroded

The well-drained soils of the Greenfield series occur on alluvial fans and terraces. Consisting mainly of granitic materials, the soils occur in elevations ranging from 600 to 3,500 feet on slopes ranging from 2 to 8 percent. Natural vegetation that typically occurs on these soils includes annual grasses, forbs, sumac, and chamise, with some scattered oak trees.

In a typical profile, the surface layer is brown sandy loam and approximately 26 inches thick. The subsoil is brown sandy loam and pale-brown loam that extend to a depth of approximately 5 feet. Greenfield soils are near the Hanford, Pachappa, Arlington, and Ramona soils.

Vista coarse sandy loam, 8 to 15 percent slopes, eroded

The Vista series consists of well-drained soils developed on weathered granite or granodiorite. These soils exist in upland areas of 8 to 15 percent slope with elevations ranging from 1,000 to 3,500 feet. Natural vegetation occurring on these soils includes annual grasses, forbs, and chaparral, with occasional occurrences of grasses and oaks.

In a typical profile, the surface layer is brown and grayish-brown sandy loam about 15 inches thick. The subsoil is brown gravelly coarse sandy loam about 9 inches thick. The subsoil is underlain by weathered granodiorite containing yellow, white, and black feldspar. Vista soils are near the Cieneba, Fallbrook, and Bonsall soils.

6.1.2 Crossing A'1 and Crossing A'2

A tributary to Warm Springs Creek is located north of Clinton Keith Road, adjacent to the proposed Project area in two locations. This location is depicted in Figure 7a and 7b. To demonstrate that the Project would not impact this tributary at either location, USACE, CDFG, and RWQCB jurisdictional boundaries of this area are shown. The Project impact area would be in close proximity to the riparian corridor, however, the Project would not directly impact the jurisdictional areas of the USACE, CDFG, and RWQCB.

6.1.3 Unnamed Tributary to Warm Springs Creek (Crossing B)

This unnamed tributary to Warm Springs Creek is located approximately 600 feet west of the intersection of Clinton Keith Road and Los Alamos Road. This location is depicted on Figure 7b. This jurisdictional area arises from a combination of surface and roadside drainage on the south side of Clinton Keith Road. Water flow crosses Clinton Keith Road via a single 18-inch-diameter culvert. The water is deposited into a steep excavated channel with evidence of erosion and flows into a tributary to Warm Springs Creek.

The jurisdictional area located on the south side of the Clinton Keith Road is very narrow (approximately 1 foot) and evidence of an OHWM was only observed after the storm event on March 15th and 16th. The OHWM consists of light drainage patterns on the soil surface. Vegetation in the drainage consists of grasses and low herbaceous species in the area of flow. The adjacent upland area is dominated by a stand of buckwheat plants. Water from this area collects and flows through a single 24-inch-diameter culvert located beneath the Clinton Keith Road and into an excavated channel north of Clinton Keith Road.

The channel north of Clinton Keith Road has a varying width and ranges approximately between 3 to 6 feet. Vegetation along the edges of the channel consists mainly of landscaped trees. They consist of a cottonwood (*Populus* sp.) tree and some ornamental tree species. This channel flows only in response to rainfall events.

For both portions of Crossing B, the top of the bank and/or the OHWM are at the same location, thus the jurisdictional areas of the USACE, CDFG, and RWQCB are considered the same area. The CDFG jurisdictional area was not extended to include landscaped vegetation along the drainage on the north side of Clinton Keith Road. Photographs of this site can be reviewed in Appendix A, Site Photographs 3 and 4.

6.1.3.1 Soils Occurring at the Unnamed Tributary to Warm Springs Creek (Crossing B)

Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded

This series consists of somewhat excessively drained soils on uplands. Slopes range from 15 to 50 percent, formed in course-grained igneous rock with elevation ranging from 900 to 3,500 feet. This hilly to very steep soil occurs on uplands with rock outcrops occupying 2 to 10 percent of the surface. Natural vegetation occurring in these soils is predominantly annual grasses, chamise, and flat-topped buckwheat.

In a typical profile, the surface layer is brown sandy loam about 14 inches thick. The underlying material is light yellowish-brown gravely coarse sand and slightly acidic, weathered granodiorite occurring at a depth of 22 inches. Cieneba soils are near Vista, Fallbrook, Friant, and Escondido soils.

Greenfield sandy loam, 2 to 8 percent slopes, eroded

A description of this soil is provided above in association with the discussion of soils for the unnamed tributary to Warm Springs Creek (Crossing A).

6.1.4 Warm Springs Creek (Crossing C)

6.1.4.1 Site Description

The jurisdictional areas of Warm Springs Creek, and all three tributaries (1, 2, and 3) were delineated and are identified in Figure 7c. Photographs of these areas can be reviewed in Appendix A, Site Photographs 5 through 9.

Warm Springs Creek is a narrow watercourse within a dense, natural riparian corridor of cottonwood (*Populus* sp.), willow (*Salix* sp.), and mulefat (*Baccharis salicifolia*). The east bank of Warm Springs Creek (Crossing C) has steep slopes with areas of bank cuts (Appendix A, Site Photograph 14), while the western bank has a gentle slope and minimal bank cuts. The width of the OHWM, indicating the jurisdictional limits of the USACE, varies from 20 to 40 feet within the Project study area. The width of the riparian corridor, indicating jurisdictional limits of CDFG, varies from 50 to 100 feet. Three 36-inch culverts are present at the current crossing of Warm Springs Creek at Los Alamos Road. Photographs of Warm Springs Creek can be reviewed in Appendix A, Site Photographs 5 through 9.

In the Project study area, Warm Springs Creek has three tributaries. The locations of these tributaries are presented in Figure 7c.

Tributary 1, in the north, is the most significant of the three with a dense riparian corridor and an obvious OHWM. Riparian species are similar to the main channel of Warm Springs Creek and include cottonwood, willow, and mulefat, and the canopy is continuous between the two channels.

Tributary 2, entering the east bank of Warm Springs Creek, collects local runoff from the adjacent hillside and drains into Warm Springs Creek. This is a very narrow drainage that varies between 6 inches to 2 feet in width. Tributary 2 does not contain wetland or adjacent riparian vegetation. All vegetation adjacent to this drainage is consistent with the surrounding upland vegetation of buckwheat and chamise. The majority of this drainage consists of an OHWM. There are a few locations where actual cuts in a bank were observed; these locations were also the limit of the OHWM. The OHWM was also determined to be the jurisdictional limit of the bed of the drainage, and also considered the jurisdictional limit of the CDFG. Thus, the limits for USACE, CDFG, and RWQCB are all within the same area. Photographs of Tributary 2 can be reviewed in Appendix A, Site Photographs 10 through 12.

A third tributary was also observed south of Tributary 2 on the east bank of Warm Springs Creek. Tributary 3 is a very narrow and short drainage. Similar to Tributary 2, all vegetation adjacent to this drainage is consistent with the surrounding upland vegetation of buckwheat and chamise. The OHWM occurred at the base of the bank, however, because the bank was nearly vertical, the top of the bank occurred in the same location. Therefore, the USACE and CDFG jurisdictional areas are considered to be at the same location and are calculated to be the same area. Photographs of Tributary 3 can be reviewed in Appendix A, Site Photographs 13 through 14.

6.1.4.2 Hydrology Analysis

A hydrology analysis was completed to ensure that the bridge structure designed for the crossing at Warm Springs Creek would be sufficient to accommodate a 100-year flow.

For preliminary design, the flow rate of Warm Springs Creek was determined from the County of Riverside Flood Control District Murrieta Creek Area Drainage Plan. The recent USACE floodplain study for Warm Springs Creek determined a 100-year flow of 9,550 cubic feet per second (cfs) at Clinton Keith Road. The land use in the USACE study is based on the existing condition. The design flow at Clinton Keith Road should be based on the ultimate land use condition consistent with the Murrieta Creek Area Drainage Plan. The ultimate condition flow outlined in the Area Drainage Plan in Warm Springs Creek is 11,000 cfs at its confluence with Murrieta Creek, which is 6 miles downstream from the Project site. For purposes of this preliminary study, the flow of 11,000 cfs was used. The 100-year ultimate design flow at Clinton Keith Road would be somewhere between 9,550 cfs and 11,000 cfs. During final design, a detailed study of the hydrology at the Project site was performed to determine the ultimate condition 100-year design flow.

A preliminary HEC-RAS analysis was performed to determine the flow characteristics of the stream at the Project roadway crossing. The flow depth at the roadway crossing is 9.96 feet, and the flow top width is approximately 319 feet. The flow is mostly subcritical with velocities ranging from 5.73 feet per second (fps) to 7.27 fps. The resulting water surface elevation is 1,291.96 feet. The roadway elevation at this location is 1,332 feet. Thus, there is adequate vertical clearance for the bridge.

With the current design for the roadway crossing and assuming three piers (each 5 feet wide), a second HEC-RAS analysis was performed and resulted in a new water surface elevation of 1,292.02 feet. The resulting water depth and top width are 10.02 feet and approximately 321 feet, respectively. This is a slight increase in water depth and top width from the existing condition. However, this increase is insignificant and does not affect the vertical clearance for the bridge. At the time of final design the HEC-RAS analysis should be refined by adding additional cross-sections, modeling the bridge based on the final bridge configuration, and adjusting the modeling parameters for a better representative model.

The design of the bridge over Warm Springs Creek is presented in Figure 5.

6.1.4.3 Soils Occurring at the Warm Springs Creek Crossing

Honcut sandy loam, 2 to 8 percent slopes
The Honcut series are well-drained soils on gently to moderately sloping soils occurring on alluvial fans developed from basic igneous rocks. These soils occur on slopes ranging from 2 to 8 percent with an elevation range from 900 to 3,500 feet. Natural vegetation typically occurring on these soils includes annual grasses, forbs, and chamise, including a few scattered oaks.

In a typical profile, the surface layer is dark-brown sandy loam about 22 inches thick. The underlying material is brown fine sandy loam or sandy loam, which extends to a depth greater than 5 feet. Honcut soils are near Buren and Wyman soils.

Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
A description of this soil is provided above in association with the discussion of soils for the Unnamed Tributary to Warm Springs Creek (Crossing B).

Vista coarse sandy loam, 8 to 15 percent slopes, eroded
A description of this soil is provided above in association with the discussion of soils for the Unnamed Tributary to Warm Springs Creek (Crossing A).

6.1.5 French Valley Creek (Crossing D)

6.1.5.1 Site Description

Site conditions at French Valley Creek adjacent to Briggs Road were fully described in Klinefelter (2003). The delineation provided by Klinefelter was utilized for this crossing. Verification of this delineation was provided during field surveys of the site.

The following summarizes the findings by Klinefelter (2003) and additional data collected during field surveys. The site is relatively flat and wide with numerous micro-topographic features where water appears to pond. Two 36-inch culverts convey flow beneath Briggs Road (dimensions are estimated). The channel is deeper and wider east of Briggs Road, than west of Briggs Road.

The site supports dense herbaceous vegetation, much of it non-native. Vegetation along the banks of French Valley Creek, within the Project area, includes tobacco tree (*Nicotiana glauca*), tamarisk (*Tamarix parviflora,* FAC), saltgrass (*Distichlis spicata,* FACW), alkali heath (*Frankenia salina*, FACW+), Russian thistle (*Salsola* sp.), sweet pea (*Lathyrus odoratus*), curly dock (*Rumex crispus*, FACW-), sourclover (*Melilotus indica*, FAC), stinging nettle (*Urtica*

dioica, FACW), ragweed (*Ambrosia psilostachya*, FAC), prickly lettuce (*Lactua serriola*), and other herbaceous species. A riparian corridor of trees or shrubs is not present within the Project study area of French Valley Creek. Sample points conducted by Klinefelter (2003) in the area south of French Valley Creek and east of Briggs Road were frequently dominated by hydrophytic vegetation, supporting conclusions that the area is a wetland.

The jurisdictional limits as determined by Klinefelter (2003) are shown in Figure 7d.

Photographs of this site can be reviewed in Appendix A, Site Photographs 15 through 18.

6.1.5.2 Hydrology Analysis

A preliminary field assessment suggested that frequent overbank flooding occurs in the areas to the south of French Valley Creek, just east of Briggs Road. There was evidence of frequent ponding and drainage paths within the entire area, supporting conclusions that the site is a wetland (Klinefelter, 2003).

In addition, a hydrology analysis was completed to ensure that the bridge structure designed for the crossing at French Valley Creek would be sufficient to accommodate a 100-year flow. The 100-year ultimate condition design flow in French Valley Creek was determined from the approved hydrology analysis of the French Valley Specific Plan. The 100-year flow for French Valley Creek is 6,100 cfs east of Briggs Road.

A preliminary HEC-RAS analysis was performed to determine the flow characteristics of the stream at the roadway crossing. The flow depth at the roadway crossing is 5.08 feet, and the flow top width is approximately 367 feet. The flow is subcritical with velocities ranging from 2.40 fps to 7.27 fps. The resulting water surface elevation is 1,323.08 feet. The roadway elevation at this location is 1,336 feet. Thus, there is adequate vertical clearance for a bridge or other conveyance structure.

It was assumed that a bridge would be constructed at this location because the flow rate is quite high. With the current design for the roadway crossing and assuming three piers (each 5 feet wide), a second HEC-RAS analysis was performed and resulted in a new water surface elevation of 1,323.23 feet. The resulting water depth and top width are 5.23 feet and approximately 371 feet, respectively. This is a slight increase in water depth and top width from the existing condition. However, this increase is insignificant and does not affect the floodplain in this area. During final design, the HEC-RAS analysis was refined by adding additional cross-sections, modeling the bridge based on the final bridge configuration, and adjusting the modeling parameters for a better representative model.

After the completion of the HEC-RAS analysis, the design of the bridge was modified; and the three piers, described above, were removed. The most current design of the bridge over French Valley Creek is presented as a single span bridge in Figure 6.

6.1.5.3 Soils at French Valley Creek Crossing

Chino silt loam drained, saline-alkali

This series is characterized by somewhat poorly drained to poorly drained soils that developed in granitic alluvium. These soils are on slopes of 0 to 2 percent in basins and floodplains. Elevations range from 500 to 1,600 feet with an average annual rainfall of 10 to 13 inches.

In a typical profile, the surface layer is gray silt loam about 14 inches thick. The underlying material is gray to light-gray silty clay loam that extends to depths greater than 5 feet. These soils are moderately to strongly saline-alkali and have a loam or silt loam substratum. The natural fertility of this soil is moderately low, with native vegetation such as annual grasses, weeds, and sedges occurring.

Cajalco fine sandy loam, 8 to 15 percent slopes, eroded

This series consists of well-drained soils developed in decomposing gabro and other basic igneous rocks. These soils occur on uplands and have slopes of 8 to 15 percent with an elevation ranging from 900 to 2,700 feet. Vegetation is predominantly annual grasses, forbs, and chamise.

In a typical profile, the surface layer is yellowish-brown fine sandy loam about 10 inches thick. The subsoil is brown fine sandy loam and loam. Cajalco soils are near Temescal, Las Posas, Honcut, and Wyman soils.

Soil Samples

Soil samples conducted by Klinefelter (2003) in the area to the south of French Valley Creek and east of Briggs Road consistently had hydric soil indicators, including gleyed and low-chroma colors and/or concretions. Soils were loam or clay loam. Soil samples supported conclusions that the area was a wetland.

6.1.6 French Valley Creek (Crossing E)

6.1.6.1 Site Description

Site conditions at French Valley Creek adjacent to Porth Road were evaluated in field surveys. French Valley Creek in this vicinity is a relatively narrow, confined channel which supports intermittent riparian and wetland vegetation. Two 36-inch culverts convey flow beneath Porth Road (dimensions are estimated).

The channel itself supports herbaceous vegetation, much of it non-native, with intermittent woody, riparian vegetation. Herbaceous vegetation includes saltgrass, alkali heath, Russian thistle, curly dock, prickly lettuce, and other herbaceous species. A riparian corridor of trees or shrubs is present intermittently along this channel, with tamarisk and willow. A more intact riparian corridor is present several hundred yards downstream of Porth Road, consisting of western sycamore (*Platanus occidentalis*), coast live oak (*Quercus agrifolia*), and willows.

There was evidence of consistent flow within the channel itself. Areas outside of the relatively incised channel showed no evidence of frequent overbank flooding. The areas adjacent to Crossing E Most areas are cultivated for agriculture, and had recently been disced prior to the field visit.

The jurisdictional limits as determined in the field are shown in Figure 7d. Photographs of this site can be reviewed in Appendix A, Site Photographs 19 through 20.

6.1.7 Unnamed Tributary to Warm Springs Creek (Crossing F)

6.1.7.1 Site Description

The jurisdictional areas of this tributary to Warm Springs Creek were delineated and are identified in Figure 7d. This channel consists of an open, vegetated channel dominated by upland vegetation consisting of low-growing forbs and grasses. No standing water or wetlands were present. Adjacent areas are dominated by Riversidean sage scrub with buckwheat and other species. No aquatic or riparian habitat is present.

The jurisdictional limits as determined in the field are shown in Figure 7d. Photographs of the site can be reviewed in Appendix A, Site Photographs, 21 through 24.

7.0 Project Impacts

This section describes the proposed impacts within the USACE, CDFG, and RWQCB jurisdictional areas as a result of implementing the proposed Project. A description and quantification of impacts for each site, including Crossing A, A'1, A'2, B, C (including Tributaries 1, 2, and 3), D, E and F, is provided below.

7.1 Types of Impacts

The potential impacts to the USACE, CDFG, and RWQCB jurisdictional areas from Project implementation could be distinguished as temporary or permanent.

7.1.1 Temporary Impacts

Temporary impacts are expected to occur during the construction of the Project. Temporary, construction impacts include a potential for increased sediment and pollutant loading to surface waters from surface runoff resulting from soil disturbance or other activities adjacent to jurisdictional areas. Temporary disturbance may also result where vehicles, equipment, or personnel are required to work within or pass through jurisdictional areas during construction. This may include the disturbance or removal of riparian or wetland vegetation associated with jurisdictional areas, or soil disturbance within jurisdictional areas. Two areas of temporary impact are identified for the Project. These areas would occur at Warm Springs Creek and French Valley Creek. They are required to provide temporary construction access to the Project bridge locations. These areas are identified on Figures 8c and 8d.

7.1.2 Permanent Impacts

Permanent impacts include placement of permanent Project features within jurisdictional areas that result in the permanent loss or impairment of that jurisdictional area. All permanent impact areas would occur within the Project impact area identified in Figures 8, 8a, 8b, 8c, and 8d. The Project impact area includes the construction of the 116-foot or 134-foot-wide roadway (median, traffic lanes, sidewalks, and maintained shoulders), bridge structures, detention basins, and all other associated Project features included in the Project description in the Final SEIR (January 2006). In some areas because of the topography, earthwork would be required to cut or fill an area required for the roadway. All earthwork would occur within the Project impact area. Exposed slopes created from cut and fill activities would be revegetated. Overall, permanent impacts would result from roadway, bridge and culvert placement within jurisdictional areas. Permanent impacts to CDFG jurisdictional areas may also include bridge shading, where shading prohibits the reestablishment of riparian or wetland vegetation.

7.2 Description of Temporary and Permanent Project Impacts

The calculation of potential impacts to USACE, CDFG, and RWQCB jurisdictional areas is based upon the location of the proposed Project impact area and additional temporary impact areas relative to the jurisdictional crossing. Although Crossing C Tributaries 1 and 3, Crossing A'1, Crossing A'2, Crossing E, and Crossing F are adjacent to the Project impact area, no direct impacts to these jurisdictional areas are anticipated. Where appropriate, caution fencing would be employed to avoid unanticipated impacts to these areas from construction activities.

The anticipated acreage of impacts to jurisdictional areas is summarized in Table 3a. The crossings to be impacted by the Project include Crossing A, B, C, Tributary 2 of Crossing C, and D. The estimated quantity of fill in jurisdictional areas associated with the proposed Project is provided in Table 3b. Where the area of the impact to USACE, CDFG, and RWQCB jurisdictional areas are quantitatively equal it is because of shared jurisdictional limits. A detailed discussion of the Crossings and their respective impact are shown below.

TABLE 3A
Anticipated Impacts to Jurisdictional Areas on the Proposed Project

Crossing Designation	Figure	Approximate Linear Feet/Crossed	CDFG Jurisdictional Area Impacted (temporary/ permanent) (Acres)	USACE/RWQCB Jurisdictional Area Impacted (temporary/ permanent) (Acres)	USACE/ RWQCB Impact (wetlands/ waters of the U.S. only)
Crossing A	8b	450 Culvert Crossing	None / 0.13	None / 0.13	None / 0.13
Crossing A'1 and Crossing A'2	8a and 8b	0	None / None	None / None	None / None
Crossing B	8b	350 Culvert Crossing	None / 0.03	None / 0.03	None / 0.03
Crossing C: Warm Springs Creek	8c	360 Bridge Crossing	0.01/ 0.30 (shading)[1]	0.01 / None	None / 0.01
Crossing C (Tributary 1): Warm Springs Creek	8c	0	None / None	None / None	None / None
Crossing C (Tributary 2): Warm Springs Creek	8c	1050 Culvert Crossing	None / 0.15	None / 0.15	None / 0.15
Crossing C (Tributary 3): Warm Springs Creek	8c	0	None/ None	None / None	None / None
Crossing D: French Valley Creek	8d	180 Bridge Crossing	0.24/ 0.25	0.24/ 0.25	0.49 / None
Crossing E: French Valley Creek	8d	0	None / None	None / None	None / None
Crossing F	8b	0	None / None	None / None	None / None

[1] The bridge span of Crossing C at Warm Springs Creek may result in indirect permanent impacts to CDFG jurisdiction (riparian canopy) from shading by the bridge structure.

TABLE 3B
Anticipated Impacts to Jurisdictional Areas on the Proposed Project

Crossing Designation	Quantity of Soil Fill (cy)	Quantity of Riprap Fill (cy)
Crossing A	67	0
Crossing B	747	0
Crossing C: Warm Springs Creek[1]		
Crossing C (Tributary 1)[1]	9027	15
Crossing C (Tributary 2)[1]		
Crossing D: French Valley Creek	336	442

Notes:
[1] Warm Springs Creek and tributaries were combined for the purposes of this analysis.

7.2.1 Unnamed Tributary to Warm Springs Creek (Crossing A)

The impacts at Crossing A would only include permanent impacts from the construction of the proposed Project. The area of permanent impact to the jurisdictional areas of the USACE, CDFG, and RWQCB would total 0.13 acres. No additional temporary impacts are anticipated. There are no wetlands or riparian vegetation at this location, and all impacts would be to intermittent stream bed and bank, sparsely vegetated with upland grasses and forbs. The specific area to be impacted at Crossing A is shown in Figure 8b. Figure 3 presents a typical cross section of the proposed roadway.

7.2.2 Unnamed Tributary to Warm Springs Creek (Crossing B)

The impacts at Crossing B would only include permanent impacts from the construction of the proposed Project, including installing a culvert. The area of permanent impact to the jurisdictional areas of the USACE, CDFG, and RWQCB would total 0.03 acres. No additional temporary impacts are anticipated. There are no wetlands or riparian vegetation at this location, and all impacts would be to intermittent stream bed and bank, sparsely vegetated with upland grasses and forbs. The specific area to be impacted at Crossing B is shown in Figure 8b. Figure 3 presents a typical cross section of the proposed roadway.

7.2.3 Warm Springs Creek (Crossing C)

At Crossing C of Warm Springs Creek, the jurisdictional areas would be spanned by a bridge structure; and no permanent structures would be installed within existing jurisdictional areas. The Warm Springs Creek bridge (Figure 5) is a three-span bridge with a total length of approximately 360 feet. The bridge structure would begin at approximately Station 299+95 and end at Station 303+55. The bridge type is a cast-in-place prestressed concrete box girder supported on multi-column bents. The superstructure is supported on two abutments and two bents. Each bent consists of four columns that would be supported on a large diameter Cast-In-Drilled-Hole (CIDH) shaft. Both abutments would be seat type with an open ended configuration. The abutments would be carried on pilecaps that would be supported on small diameter CIDH piles. Rock slope protection would be installed to the toe of the slopes beneath abutments. The minimum vertical clearance between the roadway

deck soffit and the 100-year high water elevation is approximately 34 feet near Bent 3. A fence would be placed at/near the toe of slope or along the edge of the right-of-way adjacent to this bridge to facilitate wildlife movement. One-way wildlife doors would be inserted into this fence to allow wildlife to exit the roadway should they find a way to enter.

Impacts at this location are anticipated to be temporary and would likely include construction access to trim vegetation, or provide support in bridge installation. A total of 0.01 acres of temporary impacts are anticipated to USACE/RWQCB and CDFG jurisdictional areas. Crossing C is shown in Figure 8c.

In addition, the bridge span may result in indirect permanent impacts to the riparian canopy from shading by the bridge structure. While shading from bridges is considered an impact under CEQA and potentially under Section 1600 for this analysis, it is not considered an impact under Section 404 or 401 of the CWA. Impacts at Warm Springs Creek would be reduced by the bridge design, which at the creek would have a minimum clearance of approximately 34 feet at Bent 3. It is anticipated that substantial sunlight would penetrate into areas beneath the bridge, minimizing impacts. Nevertheless, because of the bridge width (up to 134 feet), some shading impacts are anticipated, resulting in loss of riparian vegetation within the most heavily shaded areas. A total of up to 0.30 acres of riparian canopy would be potentially impacted by shading.

7.2.3.1 Tributaries to Warm Springs Creek

Of the three tributaries to Warm Springs Creek at Crossing C, only one would be impacted by the Project. Tributary 2 would be permanently impacted from the implementation of the Project. The total permanent impacts to jurisdictional areas of the USACE, CDFG, and RWQCB would be 0.15 acre. The area of Tributary 2 to be impacted is shown in Figure 8c. Tributary 2 is anticipated to be impacted by the construction of the roadway, east of Warm Springs Creek. Permanent impacts would result to the intermittent drainage which is generally within the proposed roadway alignment. The drainage is dominated by upland scrub vegetation, including buckwheat and other scrub species.

7.2.4 French Valley Creek (Crossing D)

The proposed roadway crossing at French Valley Creek would consist of a bridge which spans the majority of the jurisdictional areas of the creek, but would result in some temporary and permanent impacts. The jurisdictional areas of Crossing D are shown in Figure 8d. At this location, a bridge would be constructed to cross French Valley Creek. The French Valley Creek bridge (Figure 6) is a single-span bridge with a total length of approximately 180 feet. The bridge structure would begin at approximately Station 363+80 and end at Station 365+60. The bridge type is a cast-in-place, prestressed concrete box girder. The bridge would be supported by two seat type abutments with open ended configuration supported on steel pile foundations. Rock slope protection would be installed to the toe of the slopes beneath abutments. The minimum vertical clearance between the roadway deck soffit and the 100-year high water elevation is approximately 9 feet. A fence would be placed at/near the back of sidewalk adjacent to this bridge to guide wildlife movement under the bridge.

Temporary and Permanent jurisdictional impacts to French Valley Creek would occur where the alignment is east of and parallel to Briggs Road. A total of 0.25 acres of permanent

impacts would occur from bridge installation. Approximately 0.24 acres of temporary impacts would occur during construction. All impacts would be to wetlands as delineated by Klinefelter (2003).

7.2.5 French Valley Creek (Crossing E)

Porth Road crosses French Valley Creek just west of the proposed Project impact area. The jurisdictional areas of Crossing E are shown in Figure 8d. No direct impacts at this location would occur. Indirect impacts (e.g. through sedimentation from construction activities), would be avoided by implementation of Best Management Practices (BMPs) during construction.

7.2.6 Unnamed Tributary to Warm Springs Creek (Crossing F)

The jurisdictional areas of Crossing F are shown in Figure 8b. No direct impacts at this location would occur. Indirect impacts (e.g., through sedimentation from construction activities), would be avoided by implementation of Best Management Practices (BMPs) during construction.

7.3 Water Quality Impacts

7.3.1 Construction

During the construction of the proposed Project, earth-disturbing activities would occur. These activities may lead to sedimentation and erosion that could potentially be introduced into the drainages that cross the proposed Project site including Warm Springs Creek, tributaries of Warm Springs Creek, and French Valley Creek. In addition, stormwater runoff from the proposed Project may carry with it various pollutants, such as petroleum products from vehicles used during construction, lubricants, oils, and construction debris. Introduction of these pollutants into receiving waters could temporarily degrade water quality and impair designated beneficial uses, thereby potentially violating water quality standards. Therefore, the proposed Project would potentially result in erosion and water quality impacts on surface water during construction. Mitigation measures implemented as a part of the SEIR include measures H-1, H-2, and H-3. These require RCTD to implement BMPs to minimize pollution (See Section 8.0 to review these mitigation measures). The document entitled *Project-Specific Water Quality Management Plan for Clinton Keith Road Extension from Antelope Road to State Route 79* (WQMP) has been prepared to comply with the requirements of Riverside County. The WQMP incorporated BMPs to minimize pollution from construction activities. The report is provided in Appendix B. After mitigation, construction of the proposed Project is not anticipated to result in a significant waste discharge, erosion, and runoff water quality impacts.

7.3.2 Operation

Under the proposed Project, the amount of traffic on Clinton Keith Road would increase, which would increase deposition of vehicle-related pollutants on the road surface. During operation of the proposed Project, the stormwater flowing from the road to the drainages would contain pollutants such as particulates, nitrogen, phosphorus, lead, zinc, iron, copper, cadmium, chromium, nickel, manganese, cyanide, sodium, calcium, chloride, sulfate

and petroleum (SD RWQCB, 1994). Therefore, the proposed Project may result in a significant water quality impact. The proposed Project is subject to the Santa Margarita Watershed NPDES Municipal Permit dated September 14, 2004.

In addition, the proposed Project would result in a total impervious road surface area of approximately 47 acres. Since the current roadway is unpaved, this represents approximately 47 acres of new impervious surface. The volume of storm runoff from the increased impervious surface is expected to increase. Runoff from the proposed Project site could result in significant erosion and alteration of the hydrograph in downstream receiving waters.

To address potential impacts to water quality and to attenuate peak flow runoff, mitigation measures were identified in the SEIR. This includes measures H-2, H-3, and H-4. As a part of the Project design, based on analysis provided in these mitigation measures, detention basins to attenuate peak flow and provide water quality improvement would be installed. Stormwater that lands on the roadway would be directed by curbs along the side of the road to catch basin inlets, where it would feed into storm drain pipes that would outlet through energy-dissipater structures to detention basins. Detention basins subsequently discharge to the existing drainages.

A total of 3 detention basins to attenuate peak flow and provide treatment of runoff waters are provided, as shown in Figure 9. Specific design drawings of basins are provided on Figures 9a through 9c. Basins are designed to detain pavement runoff for 48 to 72 hours and reduce peak flow into the creeks. The drainage system is designed to collect 86 percent pavement runoff into the detention basins before discharging into surface waters. The routing of flow would delay peak flow into the creeks and mitigate peak flow increase due to the impervious areas added by the Project. It would also provide preliminary settling and treatment of potential roadway pollutants.

The proposed Project would not obstruct existing channels or flows. It would maintain existing drainage patterns in current drainage channels by building bridges over Warm Springs Creek and French Valley Creek and extending existing culverts under the proposed road, as necessary. Mitigation measure H-4 and H-5 in the SEIR have provided adequate hydrologic and drainage analysis to ensure that drainage patterns in existing creeks and channels would not be affected, that bridge designs are adequate to convey 100-year flows, and to minimize the potential significant runoff impacts by ensuring existing culverts are extended under the proposed roadway and would minimize impacts of concentrated runoff by ensuring the use of appropriately designed energy-dissipater structures.

8.0 Measures to Avoid, Minimize, and Mitigate for Impacts

Designing the proposed Project in jurisdictional areas included a process of identifying ways to first avoid, then minimize, then mitigate impacts to jurisdictional areas. Because of the purpose of the Project, to extend Clinton Keith Road from I-215 to SR 79, crossing of Warm Springs Creek and French Valley Creek and other drainages could not be avoided as the roadway is planned in an east-west direction, and the creeks run in a north-south direction. However, substantial effort and cost has been incorporated into the Project to cross these creeks with the most minimal impact. In most major stream crossings (i.e., Warm Springs Creek and French Valley Creek), impacts will be completely avoided or minimized by proposed Project design. To minimize temporary impacts, construction BMPs will be implemented with the proposed Project in compliance with mitigation measures documented in the SEIR and MSHCP terms and conditions. The proposed Project will also be in compliance with MSHCP Section 6.1.2 - Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, providing additional protection to riparian/riverine-associated species. Where impacts will not be avoided or minimized, they will be mitigated as appropriate. This section describes methods to avoid, minimize, and mitigate for impacts to jurisdictional areas.

8.1 Avoidance Measures

As previously discussed, crossings of significant jurisdictional areas have been spanned by bridge structures with no or minimal support structures located within jurisdictional areas.

The Warm Springs Creek bridge (Figure 5) is a three-span bridge with a total length of approximately 360 feet. The bridge type is a cast-in-place prestressed concrete box girder supported on multi-column bents. The superstructure is supported on two abutments and two bents. Each bent consists of four columns that will be supported on a large diameter Cast-In-Drilled-Hole (CIDH) shaft. Both abutments will be seat type with an open ended configuration. The abutments will be carried on pilecaps that will be supported on small diameter CIDH piles. Construction of the Warm Springs Creek bridge will include avoidance of the center of the channel area for all construction activities. Both abutments and bent columns will be located outside jurisdictional areas.

The French Valley Creek bridge (Figure 6) is a single-span bridge with a total length of approximately 180 feet. This longer cast-in-place structure will allow for a wider opening on French Valley Creek than the existing culvert at Briggs Road. The bridge type is a cast-in-place, prestressed concrete box girder. The bridge will be supported by two seat type abutments with open ended configuration supported on steel pile foundations. Construction of the French Valley Creek bridge will include avoidance of the center of the channel area for all construction activities. Only a portion of the bridge support will be within jurisdictional areas; the majority of the jurisdictional area will be spanned.

8.2 Minimization Measures

Minimization measures and BMPs are specified in the requirements of the SEIR and the MSHCP. These requirements, as they pertain to the proposed Project, are summarized here. These measures are anticipated to minimize impacts to jurisdictional areas.

8.2.1 Best Management Practice s Pertaining to Biological Resources

8.2.1.1 Construction Guidelines

Construction guidelines will be implemented consistent with terms and conditions of the MSHCP in Section 7.5.3. This will include the following items:

- A plan for water pollution and erosion control will be prepared and implemented.
- Timing of construction will avoid habitat clearing during species active breeding defined as March 1 to August 15.
- Short-term stream diversions, silt fencing, settling ponds and other measures will be implemented to avoid release of silt or debris in streams.
- Equipment storage and fueling will be sited on non-sensitive uplands.
- Exotic species will be properly handled to avoid resprout or regrowth.
- Appropriate fire fighting equipment shall be on hand when working adjacent to flammable habitats.
- Active construction will be watered for dust control.
- Dispensing fuel, oil, or other toxic substances shall occur only in designated areas.

8.2.1.2 Best Management Practices

BMPs required under the MSHCP, will be implemented and include the following:

- A qualified biologist shall conduct training sessions for construction personnel.
- Water pollution and erosion control plans shall be developed.
- Project footprints will be minimized and clearly marked.
- Projects shall be designed to avoid placement of equipment and personnel in stream channel habitat used by target species of concern. Where the Project cannot avoid placement of equipment or personnel in sensitive habitats, it should be timed to avoid the breeding season of riparian species.
- Erosion shall be minimized by diverting stream flows, use of settling ponds, and/or use of silt fences.
- Removal of native vegetation shall be avoided and minimized to the maximum extent practicable; temporary impacts shall be returned to a pre-existing contour and revegetated with appropriate native species.

- Exotic species that prey upon native species shall be permanently removed to the extent feasible, and the site shall be kept clean to avoid attracting predators.

8.2.1.3 Fuel Management

Brush management will be implemented within the RCTD right-of-way on the new Clinton Keith Road alignment, consistent with fuel management requirements in the MSHCP for areas adjacent to conservation areas. This will include brush management by mechanical removal where feasible to minimize risk of fire originating along the roadway.

8.2.1.4 Urban Wildlands Interface

Proposed Project measures will be implemented to meet terms and conditions of the MSHCP pertaining to urban/wildlands interface, as described in MSHCP Section 6.1.4. This will include, among other measures, the following.

- Drainage facilities and design will ensure that quantity and quality of runoff discharged to the MSHCP is not altered in an adverse way compared to existing conditions. Section 2.0 Project Description of the SEIR (January 2006) provides stormwater management system design measures.
- Only legal herbicides applied by applicators licensed with the State of California will be applied during roadway operations and maintenance, according to all state and federal regulations. Toxic runoff will be managed with stormwater management design measures.
- Roadway lighting shall be directional or shielded to avoid increasing ambient lighting conditions in the Conservation Area. Project lighting is described in Section 2.0 Project Description of the SEIR (January 2006). The proposed HPSV street lights will include full cut-off fixture to not allow direct lighting above the horizontal plane of the fixture. In addition, lighting fixtures adjacent to the MSHCP Conservation Area or other natural habitat areas will be fitted with external opaque reflectors to shield fixtures and reduce spillage into adjacent areas outside the right-of-way. To minimize the effects of noise on the MSHCP Conservation Area, all proposed conservation acquisitions by the Resource Conservation Area adjacent to the Project roadway will be reviewed by the RCTD. To minimize the effects of noise to the proposed MSHCP Conservation Area adjacent to the Project, all slope areas adjacent to Clinton Keith Road will be acquired in fee title or permanent easement which will increase the distance between noise generating traffic and proposed Conservation Areas thereby reducing noise to acceptable levels on conservation lands.
- The RCTD will submit revegetation plans to the Resource Conservation Agency and Wildlife Agencies for their review prior to construction.
- Landscape plans shall avoid the use of invasive plants as identified in the MSHCP.

The proposed Project will also be in compliance with MSHCP Section 6.1.2 - Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, providing additional protection to riparian/riverine-associated species.

8.2.2 Best Management Practices Pertaining to Water Quality

8.2.2.1 Stormwater Drainage Report

RCTD is completing a stormwater drainage report (*Final Drainage Report for Clinton Keith Extension Widening Project,* CH2M HILL, in preparation) that determined all of the permanent BMPs (biofiltration swales and detention basins) to be constructed for the proposed Project within the Project impact area. Elements of it are being incorporated into the design plans prior to construction, and have in part been described in Section 2.3, Project Description, and Section 7.3, Water Quality Impacts. The full report can be provided to the agencies when it is finalized, upon request.

8.2.2.2 Stormwater Pollution and Prevention Plan

After final design and prior to the proposed Project construction, the construction contractor will develop the SWPPP, select appropriate BMPs, and will obtain City and County approval of the SWPPP prior to start of construction. The SWPPP will identify the sources of sediment and other pollutants that may affect the quality of the stormwater discharges during construction. The SWPPP also will describe the implementation of BMPs that will effectively prevent or minimize the introduction of pollutants into the stormwater runoff from the proposed Project site for construction, and will include BMPs to ensure that temporary construction dewatering at drainage crossings will not cause excessive erosion or turbidity. These BMPs may include, but are not limited to, structural (e.g., erosion-control fences) and nonstructural BMPs (e.g., education and general awareness of permit conditions). Erosion and sediment control BMP methods may include straw bales, silt fences, sedimentation basins, filter strips, and other techniques. A WQMP has been prepared to minimize water quality impacts. The report is entitled *Project-Specific Water Quality Management Plan for Clinton Keith Road Extension from Antelope Road to State Route 79* and is provided in Appendix B.

8.2.2.3 Drainage Analysis

RCTD has analyzed pre- and postconstruction drainage patterns in the immediate vicinity of the proposed Project, and assessed postconstruction runoff volumes, flow rates, and discharge locations, and used this information to determine appropriate culvert sizes and energy dissipater structures at drain outlets. This analysis is included in two technical reports. A copy of the drainage/hydrology report, entitled *Final Drainage Report for Scour Analyses for Warm Springs Creek and French Valley Creek Bridges in Clinton Keith Road Extension Project*, is provided in Appendix C. A second report, the *Final Drainage Report for Clinton Keith Extension Widening Project,* by CH2M HILL, is in preparation, and can be provided to the agencies upon request.

8.2.2.4 Hydrology Analysis

As a part of the design of Clinton Keith Road bridge structures, RCTD has determined the potential 100-year flood inundation peak discharge rate where Warm Springs Creek and French Valley Creek cross the proposed Project site. The existing HEC-RAS computer model of the proposed bridge crossings was refined to ensure that the bridge structures over Warm Springs Creek and French Valley Creek will withstand a 100-year peak flow without affecting adjacent property owners and/or obstructing the flow of stormwater due to the

Project. This analysis is included in the hydrology report, entitled *Drainage Report for Hydraulic and Scour Analyses for Warm Spring Creek and French Valley Creek Bridges in Clinton Keith Road Extension Project* and provided in Appendix C.

8.3 Mitigation Measures

8.3.1 Mitigation for Temporary Impacts

Mitigation measures for temporary impacts to areas under jurisdiction of the Section 404 and 401 of the CWA, and Section 1600 of the California Fish and Game Code, will include revegetation of affected areas at a 1:1 ratio. This will include the following:

- Banking of the top 8 inches of topsoil prior site disturbance; topsoil will be banked away from active construction areas and covered with tarpaulins to avoid erosion or seed establishment;
- Areas impacted will be regraded to original contours or as close to original contours as feasible once construction is complete, and topsoil redistributed across impact area;
- A hydroseed mix appropriate to riparian and scrub areas in western Riverside County consisting entirely of seeds of native species will be applied according to industry-standard methods and rates.
- Hydroseed will contain cellulose-fiber mulch with a tackifier, applied at appropriate rates for erosion control.

8.3.2 Mitigation for Permanent Impacts

8.3.2.1 Hydrology and Water Quality Mitigation

As a part of the Project design, based on analysis provided in these mitigation measures, detention basins to attenuate peak flow and provide water quality improvement will be installed. A total of 3 detention basins to attenuate peak flow and provide treatment of runoff waters are provided, as shown in Figure 9. Specific design drawings of basins are provided on Figures 9a through 9c. The routing of flow will delay peak flow into the creeks and mitigate peak flow increase due to the impervious areas added by the Project. It will also provide preliminary settling and treatment of potential roadway pollutants.

8.3.2.2 Jurisdictional Waters Mitigation

Unavoidable impacts to USACE, CDFG, and RWQCB jurisdictional areas are proposed for mitigation by payment of in lieu fees, consistent with implementation of other roadway projects in the western Riverside County.

The RCTD proposes a payment to the Mission Resource Conservation District for mitigation for impacts. Payment will be made at the current rates per acre for total impacts at the time of construction impacts, at a ratio of 1:1.5 (acres impacted:acres mitigated) for permanent impacts, and 1.00 for shading impacts. Table 4 provides total anticipated impacts, mitigation ratios, and total mitigation commitments in acres to the in lieu program.

TABLE 4
Mitigation for Permanent Impacts and Shading Impacts to USACE/CDFG/RWQCB

Permanent Impacts USACE/CDFG/RWQCB (acres)	Mitigation Ratio	Mitigation (acres)	Additional Shading Impacts CDFG (acres)	Mitigation Ratio	Mitigation (acres)	Total Mitigation (acres)
0.56	1:1.5	0.84	0.30	1:1	0.30	1.14

9.0 References

CH2M HILL. Supplemental Environmental Impact Report 398, Clinton Keith Road Extension Project. January 2006.

Klinefelter, M.J. Jurisdictional Delineation of Waters, APN's 958-230-014, -015, -016, -017, Murrieta California. August 2003.

P&D Consultants, Inc. 1996. *Clinton Keith Road Alternatives Analysis Report*. Prepared for County of Riverside, Transportation and Land Management Agency. February.

_____. 1999. *Clinton Keith Road and Focused Traffic Study for the Hybrid Alignment*. Prepared for County of Riverside, Transportation and Land Management Agency. June.

_____. 2000a. *Southwest Area Road and Bridge Benefit District, Clinton Keith Road and Comprehensive General Plan Amendment 409 Final Environmental Impact Report No. 398 Volume 1.* Prepared for County of Riverside Transportation and Land Management Agency, Transportation Department. February.

_____. 2000b. *Southwest Area Road and Bridge Benefit District, Clinton Keith Road and Comprehensive General Plan Amendment 409 Final Environmental Impact Report No. 398 Volume 2: Technical Appendices.* Prepared for County of Riverside Transportation and Land Management Agency, Transportation Department. February.

_____. 2000c. *Southwest Area Road and Bridge Benefit District, Clinton Keith Road and Comprehensive General Plan Amendment 409 Final Environmental Impact Report No. 398 Volume 3: Responses to Comments on the Southwest Area Road and Bridge Benefit District, Clinton Keith Road and Comprehensive General Plan Amendment 409, Revised Draft Environmental Impact Report No. 398.* Prepared for County of Riverside Transportation and Land Management Agency, Transportation Department. March.

United States Army Corp of Engineers. Los Angeles District. *Function Based Methods for Assigning Mitigation Ratios to Riparian Systems.* Prepared by Eric Stein, PCR Services Corporation. May 1999.

_____. *Corps of Engineers Wetland Delineation Manual.* U.S. Department of Commerce, National Technical Information Service. 1987.

United States Department of Agriculture, Soil Conservation Service. *Soil Survey - Western Riverside Area California*. November 1971.

United States Department of Agriculture, Natural Resources Conservation Service List of Hydric Soils for California. http://soils.usda.gov/soil_use/hydric/states/ca.htm.

Figures

File Path: K:\clinton\plots\2006\wdFigure1_Wetlands.mxd, Date: 02 01, 2006, User: CBREDENS

Legend:

- Proposed Alignment
- Roads
- County Boundary

N

0 10 Miles

Figure 1
Regional Project Area
Clinton Keith Road Extension Project
Delineation Document

CH2MHILL

Date: 02/01/2006

Aerial Date: June 2002

K:\clinton\plots\2006\wd\Figure2_Wetlands.mxd

Legend:

Other Regional Projects or Elements

- Existing Signal [1]
- Existing High School Access [1]
- Other Development Projects [1]
- Recent Construction [1]

Proposed Project Elements

- Right-In / Right-Out Access [1]
- Signalized Intersection [1]
- Stop-Controlled Access [1]
- Bridge and Pier [1]
- Wildlife Overcrossing [1]
- Roadway Cross Section (Width = 134 Feet) [1]
- Project Permanent Impact Area [1]
- Graded Roadway [1]
- Graded Driveway [1]
- Required Residence Relocation [1]
- Potential Residence Relocation [2] (Noise Mitigation)

N

0 1,200 Feet

Source: 1 - CH2MHILL; 2 - This contains geographic information owned by the County of Riverside

Figure 2
Proposed Project

Clinton Keith Road Extension Project
Delineation Document

CH2MHILL

Date: 02/09/2006

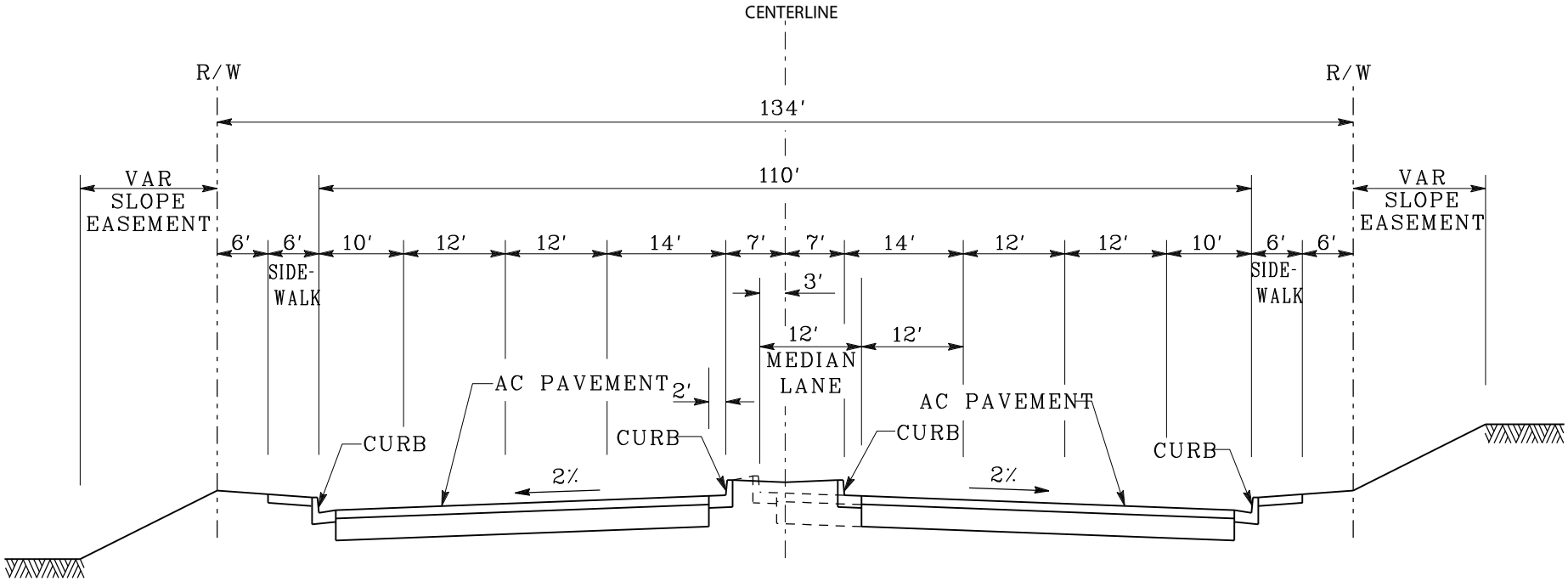


Figure 3
County of Riverside
Typical Cross Section
Clinton Keith Road Extension Project

Data not to scale

CH2MHILL

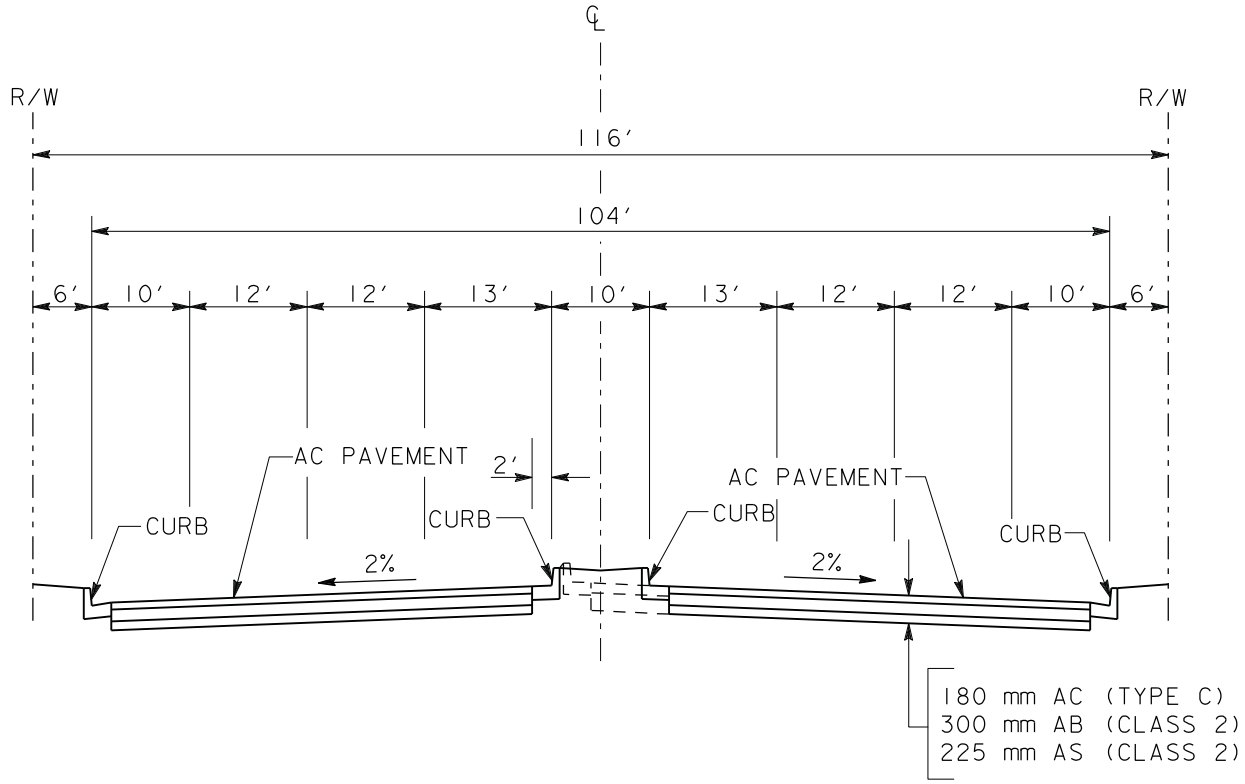


Figure 4
City of Murrieta
Typical Cross Section
Clinton Keith Road Extension Project

Data not to scale