Appendix A

Section 401 Water Quality Certification

California Regional Water Quality Control Board
San Diego Region

Winston H. Hickox
Secretary for Environmental Protection

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Gray Davis
Governor

Action on Request for
Clean Water Act section 401 Water Quality Certification

PROJECT: Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (File No. 03C-046)

In reply refer to:
WPN:18-2003046.02:haasj

APPLICANTS: Ruth Villalobos
Chief of Planning
U.S. Army Corps of Engineers, Los Angeles District
911 Wilshire Blvd., # 14007
Los Angeles, CA 90017

Warren Williams
General Manager, Chief Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
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ACTION:

1. ☐ Order for Standard Certification

2. ■ Order for Technically-conditioned Certification

3. ☐ Order for Denial of Certification

I. STANDARD CONDITIONS:

The following three standard conditions apply to all certification actions, except as noted under Condition 3 for denials (Action 3).

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent

certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action (Actions 1 and 2) shall be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

II. ADDITIONAL CONDITIONS:

A. PROJECT CONDITIONS

1. The U.S. Army Corps of Engineers (USACE) and the Riverside County Flood Control and Water Conservation District (District) (hereinafter applicants) shall plan, design, and construct the Murrieta Creek Flood Control project (project) consistent with the engineering plans, specifications and technical reports submitted with this application for 401 Water Quality Certification and all subsequent submittals required as part of this certification.

2. The District shall, at all times, fully comply with the requirements of the Municipal Separate Storm Sewer NPDES Permit (NPDES No. CAS0108766) for Riverside County issued by the San Diego Regional Water Quality Control Board.

3. **Construction NPDES Permit:** The applicants shall, at all times, fully comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, the NPDES General Permit for Storm Water Discharges Associated with Construction Activity. The Storm Water Pollution Prevention Plan (SWPPP) created and implemented pursuant to the Construction NPDES permit's requirements shall also include the following provisions:

   a) All construction debris shall be removed from the Murrieta Creek channel as often as necessary to prevent material from being washed downstream.
   b) No construction activities shall take place during rain events, except under emergency conditions or to repair erosion control measures.
   c) No runoff from equipment repair and maintenance activities shall be discharged to Murrieta Creek.
   d) Trash and debris accumulated in construction areas shall be removed at the close of each working day.
   e) No waste material from construction activities shall be discharged to waters of the State.
   f) Refueling and maintenance of equipment and vehicles shall be prohibited within 50 feet of Murrieta Creek and its tributaries.
   g) Routine maintenance activities shall not be conducted from December 1 through February 28 in order to avoid winter rains.

h) During construction activities there shall be no net increase in sediment from the project site. The applicants shall establish a water quality monitoring program to measure sediment above and below the construction sites. An increase greater than 5 percent above background (upstream site) shall result in work stoppage and installation of appropriate best management practices (BMPs). Water quality monitoring shall occur after every significant rainfall and results shall be reported to the Regional Board within 5 working days of the sampling event.

i) To avoid impacts to water quality from turbidity and other effects, the project construction and maintenance activities shall not be performed in flowing water except under emergency conditions and situations involving repair of erosion control BMPs.

j) Hydroseed used as temporary erosion control shall consist of native species, and hay bales or hay wattles used as sediment or erosion control shall be sterile certified.

4. **Multipurpose Basin (Basin) and Sediment Catchment Area:** Design, construction, and operation/maintenance of the Basin and sediment catchment area, located with the multipurpose basin and at the confluence of Murrieta Creek and Warm Springs Creek, shall include the following provisions:

   a) The Basin shall be designed to minimize impacts to downstream water resources and beneficial uses caused by flood attenuation (see Condition IV.5).

   b) The sediment catchment area will not be placed in a manner that interrupts the contiguous canopy of the upstream unmaintained vegetated corridor and the unmaintained vegetated areas within the multipurpose basin.

   c) The planned frequency of sediment removal from the sediment catchment area shall not be more often than once in a 10-year period.

   d) The outlet of the sediment catchment area shall be designed to allow passage of aquatic species during times of flow.

   e) Maintenance activities within the sediment catchment area shall not impact habitat within the wildlife enhancement area or mitigation areas of the Multipurpose Basin and unmaintained vegetated corridor.

   f) The applicants shall routinely monitor the condition of Murrieta Creek downstream of the Multipurpose Basin and shall notify the Regional Board within 14 days of discovery of any excessive scour, erosion or aggradation caused by the modifications to the stream channel and sediment transport regime. If significant degradation or aggradation impacts from post-construction runoff are determined to be a result of the project, the applicant shall also propose mitigation measures.

5. **Tributaries:** Hydrologic continuity shall be preserved between Murrieta Creek and existing tributaries (Temecula Creek, Empire Creek, Long Canyon Creek, Santa Gertrudis Creek, Warm Springs Creek, Kamia Wash/Line F, Line D, and Line E), within the project areas for all construction and post-construction phases. Flap gates or other restrictive structural devices shall not be installed for the tributaries to Murrieta Creek.

6. **Grade Control:** Any drop structures or grade control measures within Murrieta Creek or its confluences with tributary waters of the State shall be designed to:

   a) Allow for fish and wildlife passage during all storm events;
   b) Not impede stormflows greater than the 2-year storm event; and
   c) Provide functional habitat connectivity between the upstream and downstream reaches.

7. **Recreational Use BMPs.** The applicants shall design, construct, and implement best management practices (BMPs) to address urban runoff and stormwater discharges from recreational uses of the equestrian trail, bike/walk trail, and multipurpose basin. These BMPs shall include site design, source control, pollution prevention, and treatment BMPs as appropriate.

   a) The applicants shall identify recreational use BMPs within the specific construction plans for each phase of construction submitted pursuant to Condition II.A.12 above.
   b) BMPs to be considered shall include at a minimum: Site design to disconnect impervious surfaces from recreational areas to storm drain conveyances; Educational signage regarding trash and horse waste; Structural devices; Use of drought-tolerant landscaping; On-site infiltration; and others recommended by the Regional Board following review of construction specific plans.

8. **Bridge Replacements**: The applicants shall design, construct, and implement post-construction best management practices (BMPs) to reduce the discharge of pollutants and the contribution to downstream erosion caused by urban runoff and stormwater discharges from bridges replaced as part of this project.

   a) Energy dissipaters used at runoff discharge locations from any deck drains shall be planted with native vegetation, where possible.
   b) The applicants shall routinely monitor the condition of Murrieta Creek in the vicinity of the bridge replacement projects, including the outfall discharge location(s) of any deck drains, and shall report to the Regional Board any excessive scour and/or erosion caused by the placement of the structure. If significant impacts from post-construction runoff are determined to be a result of the project, the applicant shall notify the Regional Board and propose mitigation measures.

9. **Rare Avian Species:** Prior to any construction activities that occur between March 15 and September 15, the applicants shall conduct a USFWS-protocol survey for southwestern willow flycatcher and least bell's vireo in the planned construction area.

   a) If vireos or flycatchers are found to occur within the project area, all construction activities between March 15 and September 15 shall occur outside occupied habitat, unless the activities are approved by the U.S. Fish and Wildlife Service and California Department of Fish and Game.

b) Within 7 days of the survey, the applicants shall notify the Regional Board by email, phone, fax, or letter of any discovery of vireo and flycatcher within the project area.

10. **Maintenance of Channel and Mitigation Corridor:** Operations and maintenance activities shall implement the following provisions:
    a) Mowing, clearing, grading, sediment removal, and installation of riprap or other hardscape materials shall be prohibited within the areas designated as unmaintained vegetated corridor, upland slope transition zone, and/or mitigation zones.
    b) If the low-flow, active channel of Murrieta Creek meanders into the unmaintained vegetated corridor, routine channel maintenance activities shall not divert the flow back into the maintained channel zone.
    c) Routine maintenance activities within the channel (e.g., annual mowing) shall not occur between March 15 and September 15.

11. **Emergency Maintenance:** Impacts to waters of the U.S./State resulting from emergency maintenance operations are not authorized under this certification.

    a) The applicants shall obtain a Section 401 Water Quality Certification for any emergency maintenance measures performed during the life of the project that result in fill of waters of the U.S.
    b) Channel sideslopes subject to emergency erosion repairs shall be hydroseeded with native species at the completion of emergency repairs.

12. **Isolated Waters:** In the event the Army Corps of Engineers or future reconnaissance surveys (see Condition IV.4.A.7) determines that isolated waters (e.g., vernal pools) not regulated by the USACE occur within the project boundaries, the Applicants shall submit a Report of Waste Discharge to the Regional Board, and receive Waste Discharge Requirements prior to implementation of the construction phase that would impact such waters.

13. **Dewatering**: This certification does not address dewatering; separate authorization (e.g., per Regional Board Order No. 2001-96) will be required from the Regional Board for any dewatering impacts.

14. The applicants shall permit the Regional Board or its authorized representatives at all times, upon presentation of credentials:

    a) Entry onto project premises, including all areas on which waters of the U.S./State fill or mitigation is located or in which records are kept;
    b) Access to copy any records required to be kept under the terms of this certification; and
    c) Sampling of any discharge or surface water covered by this Order.

B. MITIGATION

1. The applicants shall implement mitigation measures as specified in the application for 401 water quality certification and all subsequent submittals required as part of this certification.

2. **Anticipated Impacts Requiring Mitigation.** Although the entire channel of Murrieta Creek within the project area will be impacted during construction, the exact nature of impacts to waters of the U.S./State are uncertain due to the phased construction schedule and differing assessments conducted within the project area. Exact impacts shall be identified prior to the initiation of the later construction phases. The Regional Board has estimated, however, that the applicants have the ability to mitigate for all impacts, according to ratios prescribed by this Certification, within the project area, including within the multipurpose basin if necessary. Mitigation for impacts to certain habitats, including Cismontane Alkali Marsh and depressional wetlands, are expected to occur within the multipurpose basin.

   The following table was provided within the Environmental Impact Statement/Environmental Impact Report (EIS/EIR), September 2000, and describes anticipated impacts during construction.

   a) Only impacts to waters of the U.S./State identified in the EIR/EIS table or subsequent specific plans (see Condition "B.2.c" below) are subject to this Certification. Such impacts during future operations and maintenance include those related to periodic mowing and sediment removal of the managed channel and sediment catchment area as described within the 401 application and additional submittals.
   b) Mitigation shall be provided by the applicants for impacts to wetland and waters habitats that are described in the Table as "Non-jurisdictional Habitats," including but not limited to Cismontane Alkali Marsh, Ephemeral Wetland, Freshwater Marsh, Southern Cottonwood-willow Riparian Forest, Mulefat Scrub, Mixed Riparian Scrub, and Open/Sand.
   c) The applicants shall provide detailed impacts for each construction phase prior to the start of construction of that phase (as described in Reporting Conditions below).
   d) Impacts to the areas identified as Reaches within the Table are expected to occur according to the following construction schedule:
      i. Reach 1 – Construction Phases 1 and 2.
      ii. Reach 2 – Construction Phase 2
      iii. Reach 3 (includes the Basin) – Construction Phase 3
      iv. Reach 3 upstream of Basin – Construction Phase 4
      v. Reaches 4, 5 and 6 – Construction Phase 4

Table from p. 4-72 of Murrieta Creek Final EIR/EIS:

4.5 Biological Resources

Table 4.5-10
Alternative 6: Summary of Impacts to Vegetation and Jurisdictional Waters and Wetlands
(In acres)

	Reach 1	Reach 2	Reach 3	Reach 4	Reach 5	Reach 6	TOTAL
U.S. Army Corps of Engineers and California Dept. of Fish and Game Jurisdiction Waters and Wetlands							
Freshwater marsh	21.4	57.6	19.0	1.1	0.1	–	99.2
Southern willow scrub	2.9	–	–	–	–	0.9	3.8
Mulefat scrub	0.6	–	–	0.4	0.6	0.1	1.7
Open channel/sand*	1.5	–	0.5	36.9	8.7	11.5	59.1
California Department of Fish and Game Only Jurisdictional Waters and Wetlands							
Southern willow scrub	–	–	–	0.4	0.2	1.6	2.2
Mulefat scrub	–	–	–	0.2	–	–	0.2
Non Jurisdictional Habitats							
Cismontane alkali marsh	–	0.5	0.7	–	–	–	1.2
Developed	6.5	3.4	–	0.8	1.7	1.9	14.3
Disturbed habitat	5.1	19.6	133.0	30.4	11.5	3.1	192.7
Disturbed riparian	0.1	1.6	23.0	2.0	0.9	–	27.6
Ephemeral wetland	2.7	4.1	0.8	7.6	0.4	0.4	16.0
Freshwater marsh	–	–	2.6	–	–	–	2.6
Mulefat scrub	7.5	3.9	22.1	1.3	0.7	0.9	36.4
Mixed riparian scrub	–	–	1.1	–	–	–	1.1
Non-native grassland	1.8	11.4	44.8	6.7	2.2	3.4	70.3
Non-native woodland	–	–	–	0.4	0.3	–	0.7
Open/sand	–	–	9.2	31.4	–	0.2	40.8
Riversidian sage scrub	0.5	–	–	–	–	–	0.5
Southern cottonwood-willow riparian forest	2.0	–	7.6	–	0.3	0.1	10.0
TOTAL	52.6	93.1	264.4	119.6	27.6	24.1	581.4

Notes:
Reach 3 includes the area for the multi-purpose detention basin.

* defined as USACOE waters of the United States

3. Mitigation for temporary and permanent impacts to waters of the State/U.S. for the entire flood control project shall include a 2:1, in-kind ratio for all impacts to waters of the State, except for temporary impacts to unvegetated streambed and freshwater marsh, which shall be mitigated at a 1:1 ratio.

   a) The mitigation shall be achieved in the following locations:
      i. Restoration of the Murrieta Creek streambed (for temporary streambed impacts);
      ii. The creation of the unmaintained vegetated riparian area (of no less than 73 acres outside the multipurpose basin);
      iii. Continuation of the vegetated corridor within the multipurpose basin;
      iv. Portions of the ecological restoration area within the multipurpose basin; and

v. Other mitigation identified in specific plans for subsequent phases necessary to reach the minimum ratios.

b) The 2:1 ratios must be achieved for the cumulative project (Phases 1 through 4);
c) Each Phase of construction shall be accompanied by mitigation that achieves no less than an in-kind, 1:1 ratio for impacts. Additional mitigation required to achieve the cumulative 2:1 ratio may be met during construction of the multipurpose basin in Phase 3;
d) No more than 5 years may lapse between impacts to waters of the State/U.S. and mitigation planting that achieves the 2:1 ratio. For example, mitigation "debt" from Phase 1 or Phase 2 to be met by construction in the Basin must occur within 5 years of impacts sustained during Phase 1 and Phase 2.

4. **Phase 1 Mitigation:** Mitigation for impacts to waters of the State/U.S. from construction of Phase 1 shall include implementation of "The *Revegetation and Monitoring Plan for Murrieta Creek Phase 1"* (preliminary draft, July 2003).

5. **Mitigation Timing:** The USACE and District shall initiate vegetated-corridor mitigation planting for each phase of construction within 90 days of completion of grading for that phase is completed, or within 12 months of impacts, whichever is sooner. Mitigation planting to be performed within the Basin shall be in accordance with Condition II.B.3 above.

6. **Exotic Species Control.** The applicants shall implement the following mitigation measures for control of exotic species that threaten beneficial uses of the post-construction project area:

a) Giant Reed (*Arundo donax)* shall be absent from the channel;
b) Salt Cedar (*Tamarix spp.)* shall comprise no more than 2% of the vegetation present in the channel bottom and sideslopes;
c) Total non-native vegetation shall comprise no more than 5% of the vegetation present in the channel bottom and sideslopes;
d) The applicants shall implement a bullfrog control program intended to facilitate colonization of Arroyo Toads; and
e) Ornamental vegetation planted on the levees (only native vegetation shall be planted within the channel and sideslopes) shall not include any species listed on the California Exotic Pest Plant Council (CalEPPC) Pest Plan Lists (current lists include "List A", "List B", "Red Alert", "Annual Grasses", and "Need More Information." Updated lists are available at http://groups.ucanr.org/ceppc/Pest_Plant_List/) .

7. **On-Site Biologist/Monitor:** A qualified biologist will monitor construction activities daily for approximately one month at the initiation of each construction phase, after that the biologist will monitor construction activities at least monthly. The biologist/monitor will provide field notes to the construction crew and brief them on environmental commitments during pre-construction meetings. The biologist/monitor will participate in the construction meetings to ensure that environmental commitments/ mitigation measures are followed

during construction. The biologist/monitor will instruct the Contracting Officer to stop construction or correct the problem and provide a warning if a violation to an environmental commitment were to occur or has the potential to occur.

8. If at any time impacts from the project are determined by the Regional Board to be substantial and not proportional to the mitigation measures, the Regional Board may specify additional mitigation measures.

III. DISCHARGE PROHIBITIONS:

1. The project shall not cause a discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050.

2. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or this water quality certification is prohibited.

3. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board pursuant to this water quality certification.

4. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by this water quality certification.

5. The discharge of waste into a natural or excavated site below historic water levels is prohibited.

6. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

IV. MONITORING AND REPORTING:

1. **Related Projects Report:** By November 1, 2003 the Riverside County Flood Control and Water Conservation District shall submit a report to the Regional Board that describes all projects within the proposed Project area that have been implemented or approved by the District within the last five years or planned for implementation within the next five years that are related to the proposed activity or that may impact the same receiving water body(ies) as the proposed project. The report shall identify the precise locations of any projects involving revegetation, restoration, or habitat creation within the proposed Flood Control project area.

2. **Semi-Annual Progress Reports:** The applicants shall submit semi-annual progress reports to the Regional Board until six months after the completion of the last phase construction (Phase IV).

   a) The reports shall be submitted in electronic and hardcopy formats.
   b) The reports shall be due March 31 and September 30 of each year.
   c) The reports shall identify and provide a discussion of activities conducted during the prior 6 months.
   d) The reports shall provide a discussion of projected activities and plans for the next six months.
   e) The reports shall include the results and description of the most monitoring surveys of mitigation sites conducted within the previous six months and in accordance to the schedule in the Final Revegetation and Monitoring plans for each phase.

3. **Bridge Replacements BMP Reports**: The applicants shall submit a report to the Regional Board identifying the post-construction BMP plan for each bridge to be replaced and shall demonstrate compliance with Condition II.A.8 above. This Bridge BMP report is due at least 120 days prior to initiation of bridge replacement activities.

4. **Final Specific Project Plan Reports:** The applicants shall submit Specific Plan Reports to the Regional Board for review and comment by December 1, 2003 for Phase1 and prior to 120 days of initiating impacts for each subsequent phase (Phases 2, 3, and 4). These reports shall consist of Construction Specific Plans, Draft or Final Maintenance Plans, and Final Restoration, Mitigation and Monitoring Specific Plans:

   a) Construction Specific Plans: The Construction Specific Plans shall demonstrate each phase will be designed, constructed, operated and maintained in a manner that does not cause or contribute to a violation of State water quality standards.

      i. These plans shall also include the following:

a. A discussion that identifies any significant changes to the conceptual plans that have already been submitted as part of the application for 401 Certification; and
b. Identification of the locations of any Waters of the State that are not subject to Federal Section 404 jurisdiction (e.g., isolated or ephemeral wetlands) that would be impacted by planned construction activities.

ii. The applicants shall notify the Regional Board within 21 days following revisions to the specific plans that would change the reported impacts to Waters of the U.S./State, change revegetation plans, add structural elements to the channel or sideslopes, alter or restrict flows of Murrieta Creek or its tributaries, and constitute any other significant change to the plans

b) Final Maintenance Plans: The Maintenance Specific Plans for each phase shall demonstrate compliance with Condition A.II.10 above. If draft Maintenance Plans are submitted for the "120-day deadline," then the Final Plan shall be submitted within 90 days of completion of that construction phase.

c) Final Restoration, Mitigation and Monitoring Plans:

i. Final specific mitigation plans for each phase of construction shall clearly identify the precise location of mitigation areas to facilitate future compliance inspections.

ii. The Final Mitigation and Monitoring Plans for each phase shall include construction plans and specifications that include, but are not limited to, the following:
   a. Proposed channel designs and earthwork for all mitigation areas, including appropriate cross sections and plan views;
   b. A detailed planting plan, including species lists, plant sizes and quantities, planting designs. densities, and maintenance requirements;
   c. Detailed implementation schedules, including but not limited to, dates for initiation and completion of mitigation installation, recordation of conservation easements, initiation of monitoring period, reporting dates, etc.;
   d. An irrigation plan;
   e. Specific details regarding hydrologic, habitat, and biochemical monitoring, including function-based performance standards, sample locations, periodicity, and qualitative and quantitative indicators; and
   f. All other information as appropriate and requested by the Regional Board based on review of previous submittals.

iii. Hydrogeomorphic (HGM) Functional Success Criteria: The Final Revegetation and Monitoring Plan for each phase shall include function-based success criteria. Criteria may be based on *Function-Based Performance Standards for Evaluating*

the Success of Riparian and Depressional/Emergent Mitigation Sites (Prepared by PCR Services Corporation for the U.S. Army Corps of Engineers, Los Angeles District; 1999), or equivalent functional analysis. Functional analysis shall include functions for Habitat, Biogeochemical/water quality, and Hydrologic functions.

a. Success criteria for each mitigation phase shall only be considered met following at least 12 months without irrigation of mitigation areas.

iv. Unmaintained Corridor: Final specific restoration, mitigation, and monitoring plans for each phase of construction shall include a permanent, continuous, and unmaintained vegetated corridor throughout the entire project length, from the USGS stream gauge upstream to Tenaja Road. The unmaintained vegetation corridors within the channel, including the Basin, shall be at widths and areas no less than specified in the EIR/EIS.

a. Minimum corridor areas: The minimum vegetated corridor areas shall be:

Stream/Study Reach per EIR/EIS	Anticipated Construction Phase	Minimum Area
Reach 1	1 and 2	6 acres
Reach 2	2	14.6 acres
Basin	3	145 acres
Reach 3 (above the basin) through Reach 6	4	50 acres

b. Corridor widths: The vegetated corridor width within each Reach shall not be less than specified in the EIR/EIS and subsequent section 401 application submittals. The average width of the vegetated corridor construction Phase One shall be approximately 80 feet, and the minimum width shall not be less than 60 feet. The corridor within the Basin shall include the entire basin except for the sediment catchment area, recreation area, and two 100-foot wide managed corridors for Murrieta Creek flood control.

v. Terraces: Specific mitigation plans for each phase of mitigation shall include a terrace feature within the unmaintained vegetated riparian corridor that will be designed to allow overbank flooding onto the lowermost terrace at approximately the 2-year recurrence interval.

vi. "Ephemeral Wetlands": Mitigation plans for creation of habitat within the multipurpose basin (Phase 3) shall include the creation of ephemeral/depressional wetlands to compensate for losses of ephemeral/depressional wetlands.

vii. Reconnaissance Surveys: In the Spring or Summer prior to initiation of construction of each Phase of the project, but at least 5 months following annual

mowing of the Creek, the applicants shall conduct a reconnaissance survey within each planned construction area to record biological conditions and verify HGM values. These surveys will serve to document expected impacts to waters of the State/U.S. with more precision than the conceptual plans submitted with the application for 401 Certification. The results from Spring/Summer surveys shall be submitted to the Regional Board for review and comment with the proposed Revegetation/mitigation plans for each construction Phase of the project.

5. **Estimating Flood Attenuation Impacts from Multipurpose Basin:** The application for 401 Certification lacks conclusive documentation to quantify potential impacts to beneficial uses of downstream habitats caused by flood attenuation within the planned multipurpose basin (Basin) that is planned for Construction Phase 3. Mitigation for potential impacts from flood attenuation of storms up to the 25-year event was not proposed. As a result, **prior to March 1, 2004** the applicants shall submit to the Regional Board a report of anticipated impacts to downstream water resources and beneficial uses caused by flood attenuation of the Basin.

   a) The Report shall assess potential impacts at several storm frequencies between the 2-year and 25 year storm events;
   b) The Report shall address potential impacts to habitats upstream and downstream of the Santa Margarita River "Gorge" area; and
   c) If downstream impacts to WARM, COLD, WILD, or RARE beneficial uses are expected to result from flood attenuation within the Basin, the applicants shall propose mitigation in consultation with CDFG and USFWS as appropriate. The proposal for mitigation shall assess opportunities for avoiding and minimizing impacts caused by attenuation of flows during intermediate storm events.

6. **Mitigation As-built Plan Reports:** The USACE shall submit a report (including topography maps and planting locations) to the Regional Board within 60 days of completion of mitigation for each phase of construction describing the as-built status of the mitigation projects.

V. NOTIFICATIONS

1. This Certification is not transferable to any person except after notice to the Executive Officer of the San Diego Regional Water Quality Control Board (Regional Board). The applicant shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new owner containing a specific date for the transfer of this Certification's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing owner is liable for violations up to the transfer date and that the new owner is liable from the transfer date on.

2. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

3. In response to a suspected violation of any condition of this certification, the Regional Water Quality Control Board (SDRWQCB) may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the SDRWQCB deems appropriate, provided that the burden, including costs, of the reports shall be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

4. In response to any violation of the conditions of this certification, the SDRWQCB may add to or modify the conditions of this certification as appropriate to ensure compliance.

5. All information requested in this Certification is pursuant to California Water Code Section 13267, subsequently, civil liability may be administratively imposed by the Regional Board for failure to furnish requested information pursuant to CWC § 13268.

6. All applications, reports, or information submitted to the Regional Board shall be signed and include the following certification:

   "*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for*

submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Funds from grants distributed from the State Water Resources Control Board or Regional Board cannot be used to implement mitigation measures associated with this project, unless expressly authorized by language within the grant contract. The use of such grant funds may jeopardize the acceptance of proposed mitigation measures.

PUBLIC NOTIFICATION OF PROJECT APPLICATION:

On May 5, 2003 receipt of the project application was posted on the SDRWQCB web site to serve as appropriate notification to the public.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

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San Diego, CA 92123
858-467-2735
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WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from the Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (File No. 03C-046) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. In accordance with the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan), the conditions specified in this Water Quality Certification constitute the conditions for waiving waste discharge requirements for the alteration of the Murrieta Creek stream channel. This waiver of waste discharge requirements may be terminated or modified for cause including but not limited to a violation of any condition specified in this Water Quality Certification.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

8/15/03

JOHN H. ROBERTUS
Executive Officer
Regional Water Quality Control Board

Date

Attachments 1 and 2

ATTACHMENT 1

PROJECT INFORMATION

Applicant:

Ruth Villalobos
Planning Division Chief
U.S. Army Corps of Engineers, Los Angeles District
911 Wilshire Blvd., #14007
Los Angeles, CA 90017
213-452-3783

Warren Williams
General Manager, Chief Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501
909-955-1250
fax: 909-788-9965

Applicant Representatives:

n/a

Project Name:

Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (File No. 03C-046)

Project Location:

The proposed project site is located along 7 miles of Murrieta Creek from approximately the USGS stream gage in Temecula to Tenaja Road in Murrieta. The location includes the entire stream channel along this length and some adjacent floodplain and upland areas.

Type of Project:

Flood Control

Project Description:

The primary purpose of the project is to alleviate flooding along Murrieta Creek within the Cities of Temecula and Murrieta by providing capacity to manage a 100-year flow in the project area. The U.S. Army Corps of Engineers will design and construct the project and the Riverside County Flood Control and Water Conservation District will maintain the area. Development has encroached upon the 100-year floodplain throughout the project area, and this project will remove all properties within the 100-year floodplain. The project will excavate and widen the channel and construct levees to confine the 100-year storm event within the modified channel.

The proposed project consists of the construction, operation and maintenance of a flood control channel and a 270-acre multipurpose detention basin (Basin). The project includes the construction of a recreational trail system, a regional sports park, bridge replacements, and

environmental restoration. The modified channel bottom will vary between 140 and 275 feet and will remain earthen. Side slopes will be primarily earthen. Gabions will be used only to line the creek adjacent to Old Town Temecula. Hardscape will be limited to protection of water line infrastructure. Buried riprap/soil cement bank protection will be placed only where necessary, with specific locations determined as specific plans are developed. Levees will be built around the multipurpose basin, on the eastern bank from the Basin to the upstream project limit, and on the west bank along portions of the project upstream of the Basin. All levees will be covered with 2-3 feet of soil and planted with native vegetation on the inner slopes.

The reconstructed channel will include a managed corridor and an unmaintained corridor. Maintenance of the managed area will include annual mowing along the entire project length and periodic removal of sediments. The unmaintained vegetated corridor of varying widths will be constructed within the channel along the entire project length, and side slopes will also remain unmaintained.

The multipurpose basin (Basin) will include a sediment catchment area at the confluence of Warm Springs creek. The Basin will be designed to not substantially impede flows less than the 25-year flood event, and it will be dredged every 10 to 15 years. The Basin will also include a restoration area of 163 acres, part of which may serve as mitigation for impacts from the flood control project. In addition, the Basin will include a sports park located outside of the recreated channel.

Conceptual plans have been submitted for the entire project, and specific plans have been submitted for Phase I. The project is expected to be designed and constructed in four phases and completed by September 2008:
Phase I – from USGS stream gage to 1st Street in Temecula
Phase II – from 1st Street to Winchester Road in Temecula
Phase III – the Multipurpose Basin
Phase IV – from the Basin to Tenaja Road in Murrieta

Federal Agency/Permit:	Because this is a Federal project, a Section 404(b)(1) analysis was conducted in-lieu of issuance of a Section 404 permit.
Other Required Regulatory Approvals:	California Department of Fish and Game Streambed Alteration Agreement.
California Environmental Quality Act (CEQA) Compliance:	The Riverside County Flood Control and Water Conservation District issued a Notice of Determination for the EIR on January 28, 2003.
Receiving Water:	Murrieta Creek, tributary to Santa Margarita River (HA 902.30)

Impacted Waters of the United States:	The proposed project would impact the entire length of Murrieta Creek within the project area. The exact impacts for future construction phases are unknown as habitats within the project area may change, and future delineations will identify specific impacts. Based on the 2000 EIS/EIR, impacted habitats for the entire project include freshwater marsh (~100 acres), southern willow scrub (~4 acres), mulefat scrub (~37 acres), open channel (~60 acres), cismontane alkali marsh (~1 acre), depressional wetland (~16 acres), southern cottonwood/willow riparian forest (~10 acres). The majority of the impacts to channel waters of the U.S./State are considered temporary. Impacts for Phase 1, based on a May 2003 reconnaissance include: Temporary: - 6.9 acres of Marsh - 0.5 acres of Open Channel - 2.8 acres of Willow Riparian Cottonwood Forest - 0.34 acres of Mulefat Scrub Permanent: - No impacts to jurisdictional waters were identified as permanent.
Dredge Volume:	Estimated 6.2 million cubic yards
Related Projects Implemented/to be Implemented by the Applicant(s):	The Riverside County Flood Control and Water Conservation District is involved in several projects within the project area. These include mitigation for prior impacts, routine channel maintenance, approval and/or design of revegetation and structural projects by the Cities of Murrieta and Temecula, and others.
Avoidance/Minimization Measures:	The use of hardscape materials was minimized. Construction will be phased.
Compensatory Mitigation:	Mitigation would be performed in accordance with the conceptual mitigation/revegetation plan for the entire project and specific mitigation plans developed for each construction phase. Mitigation ratios include a. 1:1 for temporary impacts to open water freshwater marsh habitat by restoring temporary impacts b. 2:1 for all other impacts to waters of the U.S./State.
Best Management Practices:	Construction BMPs will be implemented in accordance with the Statewide General Construction stormwater permit, including prompt reseeding/revegetation following emergency bank stabilization efforts. Post-construction BMP plans will be submitted for the recreation areas.
Public Notice	On May 5, 2003 receipt of the project application was posted on the SDRWQCB web site to serve as appropriate notification to the public.

ATTACHMENT 2
DISTRIBUTION LIST

State Water Resources Control Board
Division of Water Quality

Deanna Cummings
Regulatory Branch
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053

Scott Dawson
Senior Environmental Scientist
California Department of Fish and Game
Eastern Sierra-Inland Deserts Region
4775 Bird Farm Road
Chino Hills, CA 91709

Ellen Blake
U.S. EPA, Region 9
Clean Water Act Compliance Office
75 Hawthorne Street, WTR-7
San Francisco, CA 94105-3901

John Hanlon
U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, CA 92009

Lawrence E. Carlson
Office of Water Resources
United States Marine Corps Base Camp Pendleton
Camp Pendleton, CA 92055-5010

Dan Silver
Coordinator
Endangered Habitats League
8424-A Santa Monica Blvd., #592
Los Angeles, CA 90069-4267

Appendix B

Streambed Alteration Agreement

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
INLAND DESERTS REGION
3602 INLAND EMPIRE BLVD., SUITE C-220
ONTARIO, CA 91764

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2012-0200-R6 (REVISION 1)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
MURRIETA CREEK PHASE II

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Riverside County Flood Control and Water Conservation District (Permittee) or as represented by Mr. Warren Williams.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on December 10, 2012, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located within Murrieta Creek, tributary to Santa Margarita River, from 200 feet upstream of Winchester Road to 1,000 feet downstream of First Street, in the City of Temecula, Riverside County, State of California; U.S. Geological Survey, 7.5' Temecula and Murrieta Quadrangle in extrapolated sections 2, 11 and 12, Township 8 South, Range 3 West, Sections 34 and 35, Township 7 South, Range 3 West, San Bernardino Base and Meridian, Riverside County, California.

PROJECT DESCRIPTION

The U.S. Army Corps of Engineers (Corps) proposes to construct various channel improvements within Phase II of the Murrieta Creek Flood Control Project. The Riverside County Flood Control and Water Conservation District (Permittee) owns the channel right-of-way, will provide funding, and will operate and maintain the project after

its completion. The project description (construction) and operation and maintenance activities are described herein.

Construction

The Murrieta Creek Phase II will require channel modifications along an approximately 13,000-foot stretch from 200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street. Project components include: 1) widening and deepening of the channel; 2) grading and recontouring of the side slopes; 3) placement of buried rip rap for slope toe protection in areas with a recontoured slope of 2:1 and 3:1; 4) soil cement protection in areas with recontoured slopes steeper than 2:1; 5) construction of five maintenance access ramps; 6) construction of 14 drop inlets along the maintenance road path; 7) four grade control structures; 8) removal of Via Montezuma, an existing low-water crossing; 9) construction of maintenance roads on both sides of the channel (the western maintenance road will serve as a recreational trail for pedestrians, bicyclists, and equestrians; the eastern maintenance road will serve as a recreational trail for pedestrians and bicyclists); 10) future operation and maintenance; and 11) an unmaintained vegetated corridor (averaging 70 feet in width).

Channel Excavation and Erosion Control

The excavation depth within Murrieta Creek would range from 2 feet to 11 feet depending on the location along the creek. From 200 feet upstream of Winchester Road to 1,600 feet downstream of Winchester Road, a 2H:1V slope will be constructed. The channel would transition into a 3H:1V slope over the next 200 feet. The channel would continue the 3H:1V slope to 1,000 feet downstream of Rancho California Road where the slope would transition to 1H:4V over the next 300 feet. The 1H:4V slope would continue to 300 feet below 1st Street then it would transition to a 1H:2V slope over the next 50 feet. The channel would continue the 1H:2V slope for 450 feet and transition to a 2H:1V slope for the next 200 feet until it connects with the Phase I constructed slope. Soil cement will be used on slopes less than 2H:1V and rip rap with geotextile liner on areas with slopes 2H:1V to 3H:1V. The rip rap and liner will be covered with 1-2 feet of soil then stabilized. Approximately 20.46 acres of channel side slopes will be planted with upland coastal sage scrub species. Table 1 below, shows the side channel slopes and protections used for this project along with the location in the channel where these change.

Table 1 Side Slopes and Slope Protection

Approx. Stations	Slope (H:V)	Slope Protection	Start Point for Slope	End Point for Slope
189+00 to 170+00	2:1	Buried riprap with geotextile liner	Upstream project end	Upstream of Long Canyon Creek
170+00 to 168+00	2:1 to 3:1 transition for 200 feet	Buried riprap with geotextile liner	Upstream of Long Canyon Creek	Downstream of Long Canyon Creek

168+00 to 98+00	3:1	Buried riprap with geotextile liner	Downstream of Long Canyon Creek	Beginning of transition 1000 feet downstream of Rancho California Road
98+00 to 95+00	3:1 to 1:4 transition for 300 feet	Buried riprap with geotextile liner for 3:1 slope, soil cement at start of transition	Beginning of transition 1000 feet downstream of Rancho California Road	1300 feet downstream of Rancho California Road
95+00 to 66+00	1:4	Soil cement	1300 feet downstream of Rancho California Road	350 feet downstream of 1st Street
65+50 to 61+00	1:2 for 450 feet	Soil cement	350 feet downstream of 1st Street	Transition to connection with existing Reach 1 channel 1000 feet downstream of 1st Street
59+00	2:1	Buried riprap with geotextile liner	Downstream project end	1000 feet downstream of 1st Street

Grade Control or Stabilizer Structures

Four grade control or stabilizer structures are included in the Project as described below:

1. Upstream of Winchester Road a temporary drop structure/end protection will be placed to protect the flood control measures constructed in the project area. This temporary structure will be removed when Phase III of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project is constructed. The grade control structure includes a 36 inch thick riprap layer placed on a 2H:1V slope on the upstream side and a 2H:1V slope on the downstream side. The bottom of the structure would be placed seven feet under the low flow invert. The upstream protection would be flush with the existing channel invert. The downstream invert would be ten feet lower and flush with the new channel invert. This structure would also include a 1 foot notch at the surface on the east side of the channel to help direct low flows toward the unmaintained area. The existing temporary drop structure at the upstream end of Phase I will be removed.

2. Drop structures would be constructed at the confluence of both Long Canyon and Empire Creeks as a transition to the invert elevation of the lowered Murrieta

Creek. These structures would be two foot thick grouted stone trapezoidal structures. The top of the structure would be flush with the upstream end channel invert. On the downstream slope, there would be approximately six feet of exposed slope. The grade control structure at Long Canyon and Empire Creeks would have an upstream slope of 2:1, a ten foot wide top, and a downstream slope of 3:1. The required fill material would be approximately 4,320 cubic yard (cy) at Long Canyon and 8,100 cy at Empire Creek. A 1-foot notch would be included at the surface in each structure to convey low flows within a smaller cross section and increase low-flow depths

3. A grade stabilizer would be constructed upstream of Rancho California Road to increase flow capacity under the bridge and protect against erosion of the channel bottom. The structure, buried within the creek bed, would have a 10-foot wide top at grade with a buried upstream slope of 2:1 and a buried downstream slope of 3:1, and require approximately 112,320 cy of fill. This structure would also include a notch at the surface within the riparian/low flow zone to concentrate low flows.

Drop Inlets

The project would include forty-one side drains that connect existing side drains along Murrieta Creek to outlet through the proposed side slopes. Fourteen drop inlets would also be included in the design of the side drains along the maintenance road to allow drainage into the creek. These drop inlets would connect to existing pipes within the right-of-way. The pipes may need to be cut or extended to fit with the drop inlet structure. Each drop inlet construction would be different; however, they would be between a 2 x 2 foot or 6 x 6 foot concrete box structure. The box structure would have a shaft that extends to street grade and is covered by a grate to allow flows into the structure.

Road Crossing Removal

The Via Montezuma dip crossing will be removed from the channel. The road is an approximately 675-foot long concrete road that dips into Murrieta Creek.

Maintenance Roads and Access Ramps

A 15 foot wide maintenance road would be placed on the slope tops of both sides of the channel for the entire project length. The west side would be decomposed granite and the east bank would be asphalt. Where possible, the maintenance roads would connect to other roads or trails in the project area. If a connection to other roads or trails is not possible, then a turn-around would be placed to allow maintenance vehicles to maneuver. There are two creeks that confluence on the left side of Murrieta Creek. Empire Creek is approximately 1,700 feet downstream of Via Montezuma Road and Long Canyon Creek is approximately 1,800 feet upstream of Via Montezuma Road.

Five access ramps would be included in four locations along Murrieta Creek. These ramps are approximately 15 feet in width and would be constructed to allow channel maintenance access. These locations and descriptions are:

- One 300-foot long concrete ramp with a 10 percent slope located on the west bank downstream of Winchester Road
- Two 265-foot long concrete ramps located on the west and east banks downstream of Via Montezuma Road
- One 200-foot long ramp located on the east bank approximately 800 feet upstream of Rancho California Road
- One 265-foot long ramp located on the west bank approximately 1,000 feet upstream of Main Street.

Materials and Equipment

Construction would require approximately 952,000 cubic yards of earthen fill material that would be recycled from material excavated on site. Other materials to be procured off site include approximately 35,109 cubic yards of riprap, 68,650 cubic yards of soil cement, plastic covers for stockpiles, planters, topsoil, sod, and other materials required to establish vegetation. Most of the material would be available from sources located approximately 10 to 15 miles from the Project area.

Equipment required for the construction and/or maintenance of the creek channel typically includes the following equipment types and numbers:

Dozers (1), Scrapers (3), Graders (2), Loaders (2), Pickup truck (1), Water trucks (2), Flatbed truck (1), Trencher (1), Crane (1), Pile Hammer (2), Compactors (2), Excavators (1), Dump trucks (20), Air compressor (1), Brush chipper/shredders and chain saws, rubber tracked mowers (4), Bobcats, Ag tractor, and Skidsteer loaders.

Staging and Stockpiling

Staging and stockpiling areas would be located adjacent to the work areas. Construction facilities, stockpiling, loading, processing, and hauling of excavated material would be as described above, and would include a batch plant for soil cement processing required for construction of soil cement protected slopes. Approximately 952,000 cy of excess material would be generated, of which a portion would be reused as miscellaneous fill material. Temporary storage of the remaining excavated materials would occur at the proposed Phase III detention basin site upstream (haul route is approximately less than 6 miles round trip). The construction contractor is responsible for managing the excess soil. The Phase III basin would only be used as a temporary holding area by the contractor. Total truck trips would be approximately 15,000. For the Modified Phase II channel improvements, construction equipment could be staged at 4 different locations:

1. A 200 foot wide by 500 foot long area on the west bank approximately 400 feet downstream of 1st Street. This site is currently an unvegetated vacant site that would be returned to preconstruction conditions upon completion of construction.
2. The site on the upstream end of the project is 1,100-1,400 feet wide by 1,800 feet long within the project boundaries for the Phase III basin. This site is currently vegetated with grasses that would be converted to soccer fields. Several large cottonwood trees located in the mid-area of the site would be protected in-place. A drainage feature at the northwest end of the site would be avoided. This site may also be used as an optional temporary disposal site.
3. A City of Temecula-owned, triangular-shaped property at the corner of Rancho California Rd and Diaz Rd would serve as a staging area.
4. A 200 to 280 foot by 200 foot unvegetated vacant lot 900 feet upstream of Main Street on the west bank. The site would be accessed from Pujol and Felix Valdez Streets.

Unmaintained Riparian Corridor

Approximately 23.67 acres of an unmaintained vegetated/low-flow corridor at invert elevations that would vary from 35 feet to 150 feet in width along the length of Phase II. The unmaintained vegetated corridor would extend the entire length of the Project along the east side of the creek bottom. Breaks in the unmaintained riparian/low flow corridor would occur where the access ramps and grade control structures cross the corridor as well as at the outlets of Long Canyon and Empire Creeks, other storm drain outlets, and under bridges. The unmaintained riparian low-flow corridor would range from 100 to 150 feet in width from the upstream end of the Project to about 700 feet upstream of Rancho California Road. It would then narrow to 35 feet in width through the Old Town reach and then gradually widen to 70 feet before connecting with the Phase I channel improvements.

Operation and Maintenance Activities

Operation and maintenance would consist of annual inspections, maintenance, and repairs to channel side slopes, drop inlets, grade control structures, maintenance roads and access ramps, and storm drain outlets/side drain outlets. Maintenance will include vegetation management and sediment removal within the maintained channel zone to preserve the flood flow capacity of the channel. The annually maintained zone is designated as Regularly Maintained Area and mapped throughout the entire project area. Regular maintenance activities would not affect the unmaintained Riparian/Low-Flow Corridor described above, except for maintenance of side drain outlets, plant maintenance during the first 5-year monitoring period, and perpetual weeding.

Maintenance and access roads and ramps

Regular repairs of the maintenance and access roads would be conducted as needed.

The maintenance and access roads are located on top of the channel banks, not within the creek channel. Access ramps into the channel invert are adjacent to the riparian/low flow corridor at specific sites; however, disturbance to the riparian habitat from repairs is not expected. In general, road and ramp repairs would be scheduled to occur outside of the typical nesting season, as determined by the Designated Biologist(s). However, in the case that repairs involving the use of heavy machinery are required within approximately 500 feet of the riparian/low flow corridor during nesting season, appropriate measures from the Nesting Bird Plan (NBP; see measure 2.3), shall be implemented.

Storm drain outlets and drop inlets

Repairs of the storm drain outlets and drop inlet structures along the bank slopes, channel invert, and at the top of bank would be conducted on an as-needed basis, as described below. Regular clearing of debris, sediment and weeds would occur at the invert of the outlets on both the east and west banks. Repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from the invert. An approximate 15-foot width of vegetation clearance through the unmaintained Riparian/Low-Flow Corridor at each side drain (20 on east bank) would be maintained annually for equipment access to the side drain outlets. Equipment used could include a bobcat, dump truck and/or excavator. Clearing of debris, sediment and weeds would be restricted to the 15-foot width access area and at the storm drain outlet. For larger drains with an energy dissipater, clearing of debris, sediment, and weeds would be limited to the access area, energy dissipater, and at the outlet of the storm drain.

Grade control structures

Regular vegetation or sediment removal is not anticipated at the structures, except at those areas designated as regularly Maintained Areas on the Figures 3-1a through 3-1e of the Draft Environmental Assessment/Environmental Impact Report (2012) prepared for the proposed Phase II design modifications. Repairs of the structures may be needed, but are expected to be within the Regularly Maintained Area, and are not anticipated to necessitate clearing of vegetation from the Riparian/Low-Flow Corridor.

Channel side slopes

Regular maintenance of the channel side slopes would include trimming, cutting, and/or removal of select vegetation on the slopes to maintain a height of 3-4 feet. Vegetation along the slopes would consist of upland coastal sage scrub species. No cutting of vegetation within the Riparian/Low Flow Corridor would occur. Routine maintenance activities would be conducted outside of the typical nesting season, as determined by the Designated Biologist(s).

Other maintenance activities along the slopes would also include weeding and watering within the first 5 years of the vegetation establishment period. If weeding and watering activities associated with habitat management activities occur during the typical nesting season, as determined by the Designated Biologist(s), appropriate measures from the NBP shall be implemented.

Vegetation and Sediment Maintenance within Regularly Maintained Area

Regular maintenance activities would involve regular recurring (annual) mowing and periodic sediment and debris removal within the identified 41.67-acre Regularly Maintained Area. These activities would be limited to the Regularly Maintained Area boundaries (see Figures 3-1a through 3-1e, attached) and would not result in disturbance to any vegetation within the Riparian/Low Flow Corridor.

When sediment deposition levels reach 3 feet or more above the design invert elevation, sediment would be removed from the Regularly Maintained Area consistent with the design drawings (see attached Design Plates Plan and Profile). It is estimated that sediment would need to be removed approximately every 1 to 5 years through the Old Town reach, and every 5 to 12 years through the remaining Phase II area. These periods vary since flow rates and sediment deposition rates are affected by rainfall amounts. It is anticipated that sediment would not need to be removed from the entire Phase II regularly maintained area all at once; however, it is a possibility as the need for sediment removal will be dependent on localized channel conditions, individual storm events, and the severity of a winter season.

The channel design has a flat channel bottom or invert, with the intent of allowing the low flows to pass through the unmaintained Riparian/Low-Flow Corridor. However, this design would not preclude flows from meandering into the regularly maintained section of the channel. Should the low flow or thalweg flow through the regularly maintained areas of the channel, no measures are proposed to physically redirect flows through the unmaintained Riparian/Low-Flow Corridor. However, during sediment removal operations in the maintained area, when needed, a small temporary "sugar" berm would be re-formed locally at the sediment removal area to encourage flows towards the Riparian/Low-Flow Corridor. This essentially would entail sediment being pushed up to form a small berm within the sediment removal area, adjacent to the unmaintained Riparian/Low-Flow corridor that would be aligned parallel with the channel.

Less frequent maintenance activities include repairs of degraded and eroded areas and structural features, clearing of debris and sediment from storm drains and drop inlets, and repairs of the maintenance and access roads and ramps. Other minor maintenance activities would also include repair of fences and trash removal. Removal of trees obstructing the pipe outlets would also be conducted on an as-needed basis. Repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from

the invert. An approximate 15 ft. width of vegetation clearance through the unmaintained Riparian/Low-Flow Corridor would be maintained annually for equipment access to the side drain outlets. Equipment used could include a bobcat, dump truck and/or excavator.

Trees and shrubs on the vegetated slopes that would affect the flow conveyance capacity of the channel or integrity of the side slope protection would be maintained (i.e., trimmed) or removed to maintain a maximum height of 3-4 feet along the side slopes.

Habitat management of the unmaintained Riparian/Low-Flow Corridor and channel side slopes would also be part of the long term operation and maintenance of the project. These areas would be weeded and watered as needed and monitored for the first 5 years by the Corps for plant establishment and restoration success. Weeding of invasive exotic species would continue as part of long term habitat management by Riverside County Flood Control and Water Conservation District. Plants that do not survive during this first 5 year period would be replaced as determined by a restoration ecologist to meet the established restoration success criteria. If vegetation is removed or damaged by heavy flows within the unmaintained Riparian/Low-Flow Corridor during the initial 5 year restoration period, plants would be replaced one time and/or allow for natural recruitment, as determined by a restoration ecologist to meet the restoration success criteria. No regular annual mowing or sediment removal activities would occur within the unmaintained riparian/low flow zone. Flood control maintenance within the Riparian/Low-Flow Corridor would be limited to access as indicated above, and emergency or other erosion repairs described below. Maintenance of the landscaped areas on the top of the channel banks adjacent to the maintenance road and trails would be carried out by the City of Temecula.

Emergency repairs may be required in situations such as flood waters escaping the channel, or failure of channel lining, stabilizers, or structures. Emergency repair activities may result in a temporary disturbance of habitat within the unmaintained Riparian/Low Flow Corridor. Permittee shall obtain all applicable permits, approvals, and authorizations to conduct any emergency repairs.

PROJECT IMPACTS

Existing native fish and wildlife resources the project could potentially substantially adversely affect include: AMPHIBIANS- western spadefoot (*Spea hammondii*); BIRDS- American Crow (*Corvus brachyrychos*), American Kestrel (*Falco sparverius*), Bell's Sage Sparrow (*Amphispiza belli belli*), Burrowing Owl (*Athene cunicularia*), Bushtit (*Psaltriparus minimus*), California Horned Lark (*Eremophila alperstris actia*), Coastal California Gnatcatcher (*Polioptila californica californica*), Common Raven (*Corvus corax*), Cooper's Hawk (*Accipiter cooperii*Ferruginous Hawk (*Buteo regalis*), Greater Roadrunner (*Geococcyx californianus*), Great Blue Heron (*Ardea herodias*), Great Egret (*Ardea alba*), Golden Eagle (*Aquila chrysaetos*), Least Bell's Vireo (*Vireo belli pusillus*),

Mallard (*Anas platyrhynchos*), Marsh Wren (*Cistothorus palustris*), Northern Harrier (*Circus cyaneus*), Red-tailed Hawk (*Buteo jamaicensis*), Red-shouldered Hawk (*Buteo lineatus*), Red-winged Blackbird (*Agelaius phoeniceus*), Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*), Swainson's Hawk (*Buteo swainsoni*), Tree Swallow (*Tachycineta bicolor*), Tri-colored Blackbird (*Agelaius tricolor*), White-tailed Kite (*Elanus leucurus*Yellow Warbler (*Setophaga petechia*), Yellow-breated Chat (*Icteria virens*), Yellow-headed blackbird (*Xanthocephalus xanthocephalus*); FISH- Arroyo chub (*Gila orcutti*); MAMMALS- bobcat (*Felis rufus*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), desert cottontail (*Sylvilagus audobonii*); PLANTS- Chaparral sand-verbena (*Abronia villosa var. aurita*), smooth tarplant (*Centromadia pungens ssp. laevis*); REPTILES- Coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*), coastal western whiptail (*Aspidoscelis tigris steinegeri*), orange-throated whiptail (*Aspidoscelis hyperthyra*), red-diamond rattlesnake (*Crotalus ruber ruber*), silvery legless lizard (*Anniella pulchra pulchra*), Southwestern pond turtle (*Actinemys marmorata pallid*), two-striped garter snake (*Thamnophis hammondii*), and western fence lizard (*Sceloporus occidentalis*).

The adverse effects the project could have on the fish and wildlife resources identified above include the disturbance to, alteration of, and/or loss of nesting and foraging habitat and wildlife corridors. Implementation of the proposed project would impact a total of 122.42 acres, of which approximately 106.52 acres is considered state streambed/banks. Of the total 106.52 acres of jurisdictional impacts, approximately 9.58 acres will be permanently impacted, 55.27 acres will be temporarily impacted, and 41.67 will be subject to ongoing, annual maintenance. Habitat types to be impacted by the project include cottonwood-willow riparian (1.01 acre), riparian scrub (14.15 acre), mulefat scrub (5.59 acres), freshwater marsh (36.35 acres), coastal sage scrub (2.16 acres), open water and channel (12.81 acres), and disturbed/non-native/and/or unvegetated (50.35 acres). The Project will result in a 23.67-acre unmaintained riparian/low flow corridor, 20.46 acres of coastal sage scrub atop rip rap slope protection, 41.67 acres of maintained channel, 1.7 acres of soil cement slopes, 10.23 acres of maintenance/access roads, 0.52 acres of grade control structures, and 24.17 acres of temporary disturbance from construction activities within the right-of-way to be replanted with native species.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.

1.5 Take of Nesting Birds. Sections 3503, 3503.5, and 3513 of the FGC prohibit take of all birds and their active nests, including raptors and other migratory non-game birds (as listed under the Migratory Bird Treaty Act).

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

2.1 Biological Monitor. Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of biological monitor(s) (Designated Biologist(s)) responsible for monitoring of Project activities. Permittee shall ensure that the Designated Biologist(s) is knowledgeable and experienced in the identification, biology, natural history, collecting, and handling of appropriate species. The Designated Biologist(s) shall be responsible for monitoring activities addressed by this Agreement, including, but not limited to all activities that result in the clearing or grading of sensitive habitat as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas. If these activities are completed during breeding/nesting periods, as determined by the Designated Biologist(s) (see Measure 2.4), Designated Biologist(s) shall be onsite throughout those activities to ensure that impacts to nesting/breeding birds are avoided. If construction activities are completed outside of the breeding/nesting season, as determined by the Designated Biologist(s) (see Measure 2.4), Permittee may limit the Designated Biologist(s) presence to weekly visits. The Designated Biologist(s) shall flag the limits of access roads and maintenance areas, perform necessary surveys, and take photographs during the construction process, as required by this Agreement. To ensure compliance with the measures of this Agreement, the Designated Biologist(s) shall immediately halt any activity that does not comply with this Agreement. The Designated Biologist(s) shall halt construction activities if

threatened or endangered species are identified and notify the appropriate agencies immediately.

2.2 Lighting Impacts. No lighting shall be allowed to impact jurisdictional areas, and the lighting and fencing for infrastructure adjacent to jurisdictional areas shall be designed or reviewed by a qualified biologist to allow wildlife to move within the open space and conserved areas without hindrance.

2.3 Nesting Bird Plan. **Prior to initiating project activities,** Permittee shall submit to CDFW for review a Nesting Bird Plan (NBP) that includes project specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur and that the project complies with all applicable laws related to nesting birds and birds of prey. The NBP shall include, at a minimum: monitoring protocols; survey timing and duration; and project-specific avoidance and minimization measures including, but not limited to: project phasing and timing, monitoring of project-related noise, sound walls, and buffers.

2.4 Work Period and Time Limits - Bird Nesting Surveys. Migratory non-game native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). In addition, Sections 3503, 3503.5, and 3513 of the FGC prohibit the take of all birds and their nests. Nesting season for raptors typically occurs between December 15 and June 15. Passerines typically nest between March 15 and September 15. Although these time periods represent the typical nesting seasons, they should not be used as the sole determining factor of occupancy. It is the Permittee's responsibility to insure take is avoided. CDFW recommends the Designated Biologist(s) survey the project site, and within a recommended 500 buffer surrounding the project site, for both diurnal and nocturnal nesting birds, prior to commencing project activities (including construction and/or site preparation). CDFW recommends surveys be conducted by the Designated Biologist(s) at the appropriate time(s) of day, no more than three days prior to commencement of project activities. **Documentation of surveys and findings shall be submitted to CDFW prior to conducting project activities.** If an active bird nest is located, the Designated Biologist(s) shall implement and monitor specific avoidance and minimization measures as specified in the NBP (refer to Measure 2.3).

2.5 Nonnative plant species. CDFW recommends the use of native plants to the greatest extent feasible in the landscaped areas adjacent to and/or near mitigation/open space areas and within or adjacent to stream channels. Permittee shall not plant, seed, or otherwise introduce invasive nonnative plant species to the landscaped areas adjacent to and/or near mitigation/open space areas and within or adjacent to stream channels (minimum 100 foot setback from open space areas and 150 foot setback from stream channels and wetland/riparian mitigation sites). Invasive nonnative plant species not to be used include those species listed on the "California Invasive Plant Inventory, February 2006" and the "February 2007

Inventory Update", (which are updates to Lists A & B of the California Exotic Pest Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999"). This list includes: pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, bush lupine, sweet alyssum, English ivy, French broom, Scotch broom, Spanish broom, and pepperweed. A copy of the complete list can be obtained by contacting the California Invasive Plant Council by phone at (510) 843-3902, at their website at www.cal-ipc.org, or by email at info@cal-ipc.org.

2.6 Best Management Practices. Permittee shall actively implement Best Management Practices (BMPs) to prevent erosion and the discharge of sediment and pollutants into streams during project activities. BMPs shall be monitored and repaired if necessary to ensure maximum erosion, sediment, and pollution control. Permittee shall prohibit the use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material, within and adjacent to CDFW jurisdictional areas. All fiber roles, straw waddles, and/or hay bales utilized within and adjacent to the project site shall be free of nonnative plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

2.7 Pollution and Litter. Permittee shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws and it shall be the responsibility of Permittee to ensure compliance.

2.7.1 Permittee shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter a lake, streambed, or flowing stream or be placed in locations that may be subjected to high storm flows.

2.7.2 Spoil sites shall not be located within a lake, streambed, or flowing stream or locations that may be subjected to high storm flows, where spoil shall be washed back into a lake, streambed, or flowing stream where it will impact streambed habitat and aquatic or riparian vegetation.

2.7.3 Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources resulting from project related activities shall be prevented from contaminating the soil and/or entering the waters of the State. These materials, placed within or where they may enter a lake, streambed, or flowing stream by Permittee or any party working under contract or with the permission of Permittee, shall be removed immediately.

2.7.4 No broken concrete, cement, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or washings thereof, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any lake, streambed, or flowing stream.

2.7.5 No equipment maintenance shall be done within or near any lake, streambed, or flowing stream where petroleum products or other pollutants from the equipment may enter these areas under any flow.

3. Compensatory Measures

To fully compensate for Phase II construction and maintenance including the adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

3.1 Habitat Establishment, Conservation, and Long-term Management – Onsite. Permittee shall establish a riparian/low flow corridor containing no less than 23.67 acres of native riparian habitat along the east bank of Murrieta Creek within the Phase II project area (refer to Figures 3-1a through 3-1e, attached). Specifics of the establishment shall be described in a revegetation plan submitted by the Corps, as described in Measure 4.1 below. The riparian/low flow corridor will be contiguous along the east bank within Phase II and will not be subject to mowing or sediment removal with the exception of bridge crossings, drop inlets, access ramps, grade control structures, and tributary inlets, which will be maintained as described within the project description. Any impacts, including temporary impacts, to the riparian/low-flow corridor, beyond those identified within the project description, and excluding impacts related to emergency activities, shall be authorized through separate notification to CDFW. Once established, the 23.67-acre riparian/low flow corridor shall be maintained and monitored throughout an initial 5-year interim phase. Maintenance and monitoring activities shall include non-native and invasive vegetation removal, trash removal, and supplemental plantings, as necessary. The 23.67-acre riparian/low flow corridor shall be

conserved and managed, in perpetuity, through the Phase II Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRRR) Manual. Permittee shall execute a cooperative agreement with a local conservation entity such as the Western Riverside County Regional Conservation Authority (RCA) for provision of long-term habitat management activities within the 23.67-acre riparian/low-flow corridor, including trash, and non-native and invasive vegetation removal, in accordance with the OMRRR Manual. An executed copy of the cooperative agreement and proof of payment to the habitat management fund, if applicable, shall be provided to CDFW within twelve (12) months following the Corp's provision of the final Phase II OMRRR Manual to the Permittee or as extended by CDFW.

All onsite revegetation activities described above shall be completed no later than 12 months following the completion of Project activities, or the constructed portion thereof.

3.2 Habitat Conservation – Offsite. Permittee shall mitigate direct and indirect impacts to Murrieta Creek and the associated habitats and species through the conservation of 15.0 acres of streambed and associated riparian habitat within Temecula Creek within Assessor Parcel Number 922-220-030. Conservation may be carried out though fee title transfer to a local conservation entity such as the Western Riverside County Regional Conservation Authority or through recordation of a conservation easement. No endowment will be required for the offsite conservation properties.

3.3 Preservation of Offsite Mitigation Area. The 15-acre offsite mitigation area shall be preserved through recordation of a conservation easement or transfer of fee title to protect fish and wildlife resources in perpetuity. The conservation easements or fee title transfer shall be in favor of the RCA, or other CDFW-approved entity, and shall be completed **within twelve (12) months following signature to this Agreement, or as extended by CDFW**. Permittee shall be responsible for all costs in recording and funding the conservation easement/fee title transfer. **An executed copy of the conservation easement/fee title transfer shall be provided to CDFW within twelve (12) months following signature to this Agreement, or as extended by CDFW.**

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Revegetation Plan. **No later than 60 days prior to** the installation of plants within the riparian/low flow corridor, Permittee shall submit to CDFW for review and approval a revegetation plan designed to meet the onsite habitat establishment and management goals identified in Conditions 3.1 through 3.3 of this Agreement.

At a minimum, the revegetation plan shall include the following information: 1) acreage of habitats to be established, including habitat types; 2) a planting plan, including a local California native plant palette and list of appropriate seed mixes to be utilized; 3) success standards and contingency measures; and 4) a monitoring and maintenance program outlining: (a) procedures that will ensure that nonnative plants are not introduced or allowed to sustain within the mitigation site, (b) a nonnative plant removal plan, (c) measures to ensure the native plant cover is achieved, and(d) restoration of ecological function within the creek is successful. Monitoring and maintenance of the mitigation site shall be conducted for a minimum of five years, or until CDFW determines the mitigation site to be successful.

4.2 Annual Reporting. An annual report shall be submitted to CDFW each year for a minimum of five years following onsite plant installation. At a minimum, this report shall include the following information: (1) a description of the enhancement, establishment, and/or restoration activities conducted during the previous year, including: (a) site preparation, (b) plant installation and an overview of the planting effort, (c) the number by species of plants replaced, and a description of plants naturally recruited, and (d) when the activities were conducted; (2) current site conditions, including: (a) the percent survival, percent cover, and height of both tree and shrub species planted, and (b) the methods used to assess these parameters; and (3) information regarding nonnative plant removal, including: (a) the methods used for removal, (b) the amount removed and/or treated, (c) the frequency and timing of removal and treatment, (d) disposal specifics, and (e) a summary of the general successes and failures or failure of the nonnative removal plan. The report shall also include wildlife species observed at the mitigation sites during monitoring surveys including sensitive species and/or listed species. Photos from designated photo stations shall be included. **The first annual report is due to CDFW no later than 13 months following plant installation.**

4.3 Notification to CNDDB. If any sensitive species are observed on or in proximity to the project site, or during project surveys, Permittee shall submit California Natural Diversity Data Base (CNDDB) forms and maps to the CNDDB within five working days of the sightings, and provide the regional CDFW office with copies of the CNDDB forms and survey maps. The CNDDB form is available online at: www.dfg.ca.gov/whdab/pdfs/natspec.pdf. **This information shall be mailed within five days to:** California Natural Diversity Data Base, 1807 13th Street, Suite 202, Sacramento, CA 95814, Phone (916) 324-3812. A copy of this information shall also be mailed within five days to CDFW Inland Deserts Region, 3602 Inland Empire Blvd., Suite C-220, Ontario, CA, 91764, **Attn: Kimberly Freeburn-Marquez**. **Please reference SAA # 1600-2012-0200-R6.**

4.4 Notification of Start and End of Construction. The Permittee shall notify CDFW, in writing, at least five (5) days prior to the initiation of and five (5) days prior to the completion of project activities in jurisdictional areas. Notification shall be mailed

to CDFW Inland Deserts Region, 3602 Inland Empire Blvd., Suite C-220, Ontario, CA, 91764, **Attn: Kimberly Freeburn-Marquez. Please reference SAA # 1600-2012-0200-R6.**

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Warren Williams
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501
fcexcsec@rcflood.org

To CDFW:

Kimberly Freeburn-Marquez
California Department of Fish and Game
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 9764
Notification #1600-2012-0200-R6
(909) 481-2945 (fax)
kim.freeburn@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees,

representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall expire on **January 12, 2020**, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Warren Williams — Date: 1/13/15

FOR DEPARTMENT OF FISH AND WILDLIFE

(For) Heidi Calvert — Date: 1-22-2015
Acting Environmental Program Manager

Prepared by: Kimberly Freeburn-Marquez
Environmental Scientist

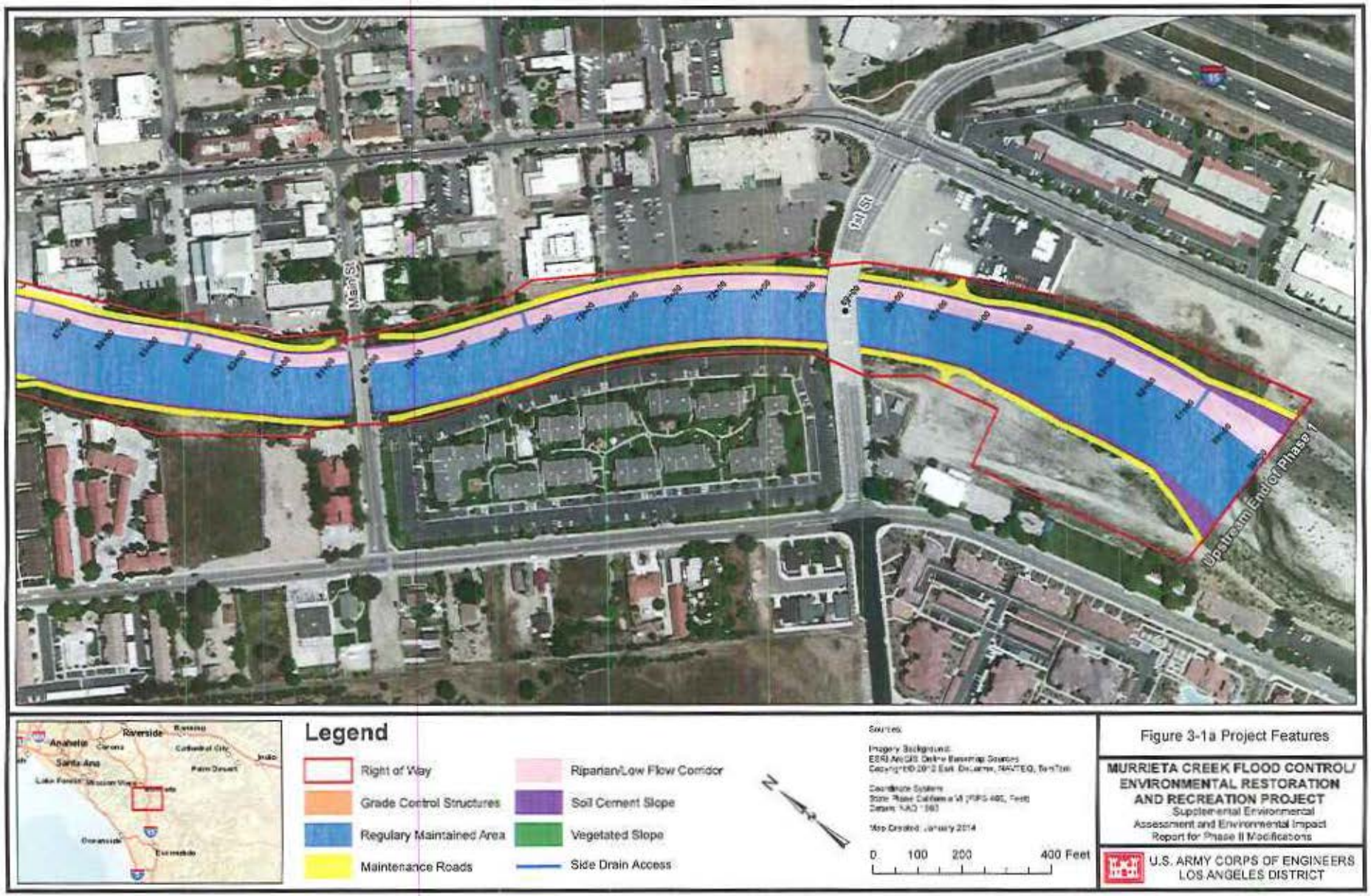

Figure 3-1a Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

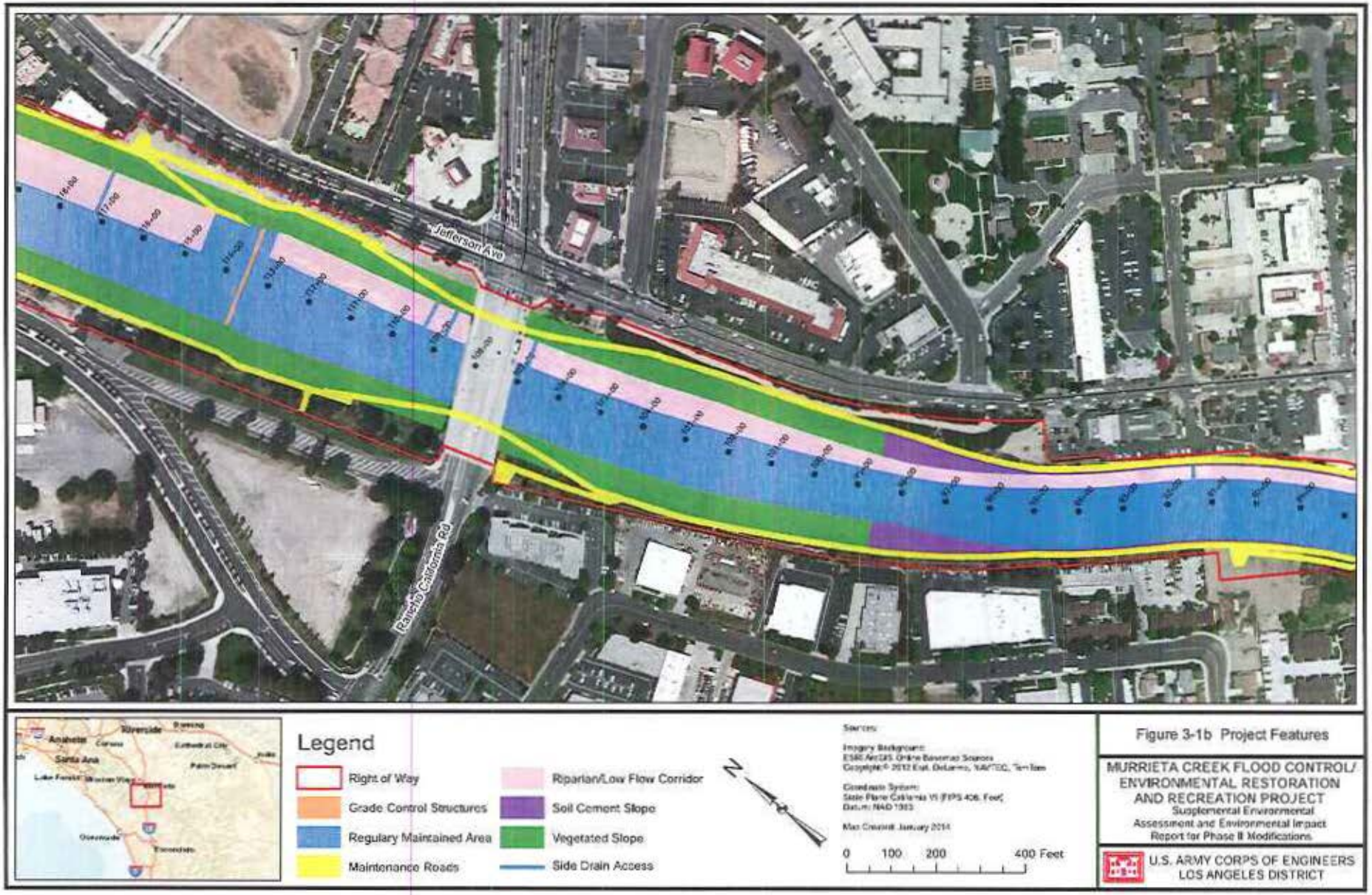

Figure 3-1b Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Figure 3-1c Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Side Drain Access
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drains

Sources:

Imagery Backgrounds:
ESRI ArcGIS Online Basemap Sources
Copyright © 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1d Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

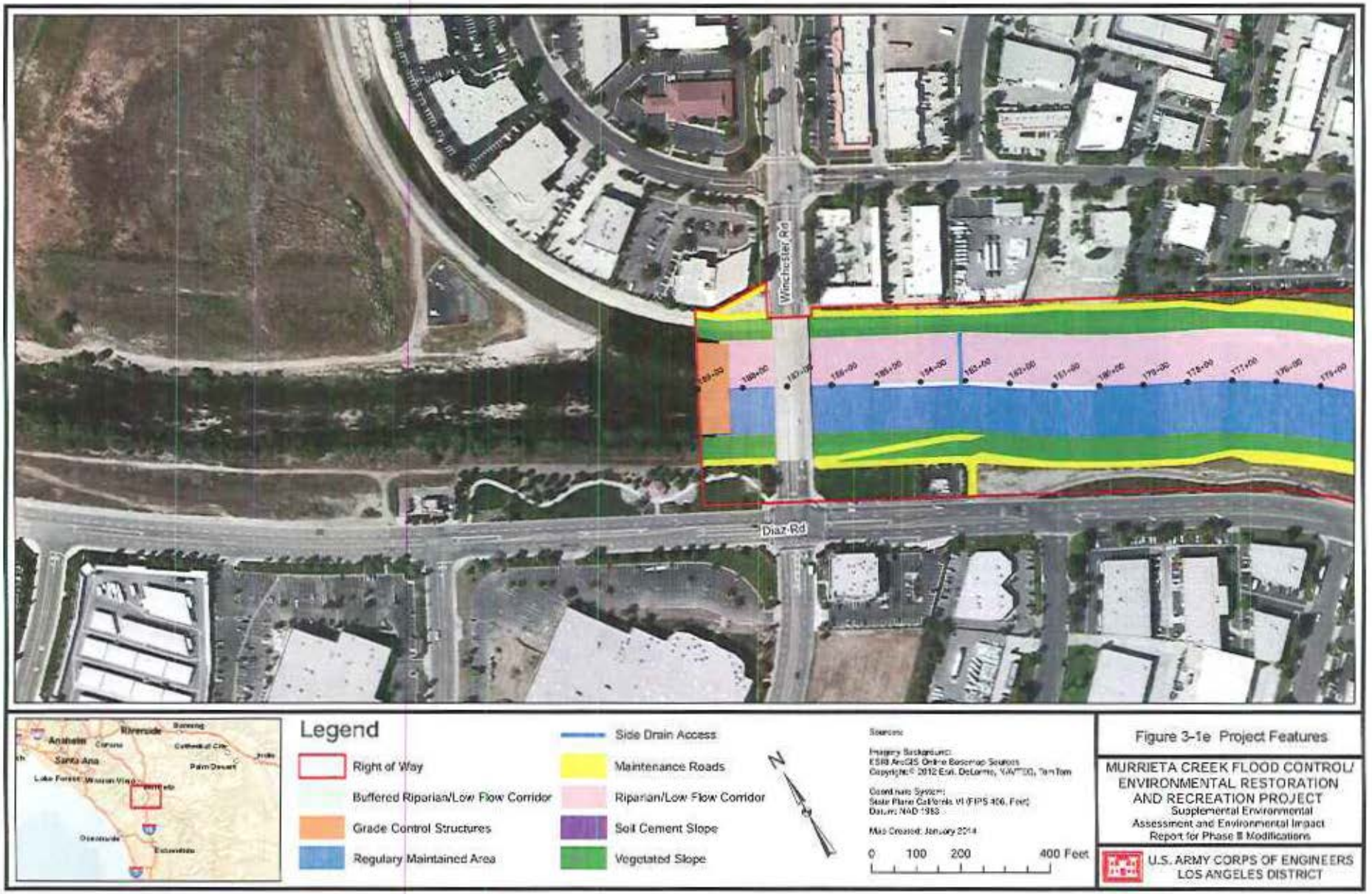

Figure 3-1e Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Appendix C

Biological Assessment and Biological Opinion Issued by US Fish and Wildlife Service

Murrieta Creek

Flood Control, Environmental Restoration and Recreation Project

Phase I Sediment and Vegetation Removal and Long-Term Operation and Maintenance

Biological Assessment

US Army Corps of Engineers®

Los Angeles District

February 2019

Table of Contents

1.0 Introduction

Pursuant to the requirements of Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended, this Biological Assessment (BA) has been prepared by the U.S. Army Corps of Engineers (Corps) to evaluate the effects of sediment and vegetation removal and long-term operation and maintenance of Phase I of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project (Project) on the least Bell's vireo (*Vireo bellii pusillus*).

1.1 Project Area

The Project is located in the City of Temecula in southwestern Riverside County, California. The Phase I and Phase II Project Areas span approximately 3 miles of Murrieta Creek, from 200 feet northwest of Winchester Road to 200 feet downstream of Temecula Parkway (Figure 1).

1.2 Project Background and Consultation History

The Project was authorized on 27 October 2000 in the Energy and Water Development Appropriations Act of 2001 (PL 106-377). The original Project Area from the 2000 EIS/EIR, as authorized, extended from the upstream limit at McVicar Street in the City of Wildomar to approximately 0.5 mile north of the confluence of Murrieta and Temecula Creeks. The approved project from the 2000 EIS/EIR was comprised of four Phases. The majority of Phase I was constructed between 2003 and 2004, although a small component of the downstream end of Phase I (Phase 1a) was never built due utilities that could not be relocated. Additional repair work and upgrades to Phase I occurred in 2007, which included installation of geotextile erosion fabric and below ground rip-rap toe slope protection. Construction of Phase IIa, which begins 0.17 miles downstream of Rancho California Road and extends 0.73 miles downstream to Phase I, was completed in 2018. The Corps is currently in the process of revaluating the remaining components of the project (Phase Ia, Phase IIb, Phase III and Phase IV) to determine what portions of the remaining project should be carried forward for construction. More comprehensive summaries of the original Project, as well as Phase I and Phase II modifications, can be found in the earlier NEPA documentation described in Table 1 below.

At the time of the Project's feasibility study, and prior to the 2001 authorization, no species protected under the ESA were known to occur within the Project footprint. As such, no formal consultation with U.S. Fish and Wildlife Service (USFWS) occurred during the feasibility study. The federally endangered least Bell's vireo (vireo) colonized the project area at some point after the construction of Phase I but prior to initiation of construction of Phase II. As a result, the Corps formally consulted with USFWS prior to construction of Phase II, receiving a Biological Opinion in 2014 regarding the effects associated with Phase II of the Project.

1.3 Description of Current Proposed Action

The Corps is preparing to turn Phase I and Phase IIa of the Murrieta Creek project over to Riverside County Flood Control and Water Conservation District (District) for operation and maintenance (Figures 2 and 3). Since the completion of Phase I in 2004 and the repairs in 2007, no maintenance has occurred. As a result, sediment build-up in Phase I has restricted flows and is causing ponding of water within the newly constructed Phase IIa. The Corps anticipates returning Phase I to design condition prior to project turn-over. Operation and maintenance of Phase IIa is covered under the 2014 Biological Opinion. The Corps is requesting to amend the Phase II Biological Opinion to include the two Phase I actions described below:

1) One time removal of vegetation and sediment by the Corps to return the project to design grade in the maintained portion of the channel.
2) Long-term operation and maintenance of Phase I by the District. (Operation and maintenance of Phase IIa would also occur, but is covered under the 2014 Phase II Biological Opinion and is not a part of the action considered under this consultation).

Action 1: One Time Removal of Vegetation and Sediment in Phase I by the Corps

The Corps proposes to remove all vegetation from the maintained portion of the channel bottom in Phase I and then remove accumulated sediment down to design grade. Sediment accumulation in Phase I ranges up to 3-4 feet above design grade. Vegetation and sediment would be removed using various heavy machinery such as excavators, bulldozers, and backhoes. All removed vegetation and sediment would be disposed of outside of waters of United States and State, and outside of any designated critical habitat or occupied habitat for listed species. Sediment testing in Phase I indicated that this material is of a desirable makeup for construction purposes. As a result, it is expected that much of the sediment in Phase I would be sold, while some quantity may also be disposed of at either a landfill, or stockpiled for later use at the temporary staging area at Jefferson Avenue and Cherry Street, referred to as the Cherry Street basin hereafter (Figure 4).

Access to the site would be available along existing access roads and ramps. The total area of vegetation and sediment removal is approximately 9.9 acres, with removal of approximately 50,000 cubic yards of material. The estimated time frame for these efforts is estimated to be 2 weeks for vegetation removal and 8-10 weeks for sediment removal. Sediment and vegetation would not be removed from the unmaintained portion of the channel (see Figure 2). Vegetation and sediment removal would commence in late August or September of 2019 and is planned to be completed prior to December 1st per commitments in the project's Clean Water Act Section 401 Water Quality Certification (WQC). If the work is delayed for unforeseen circumstances, removal may continue beyond December 1st, after coordination and approval of the San Diego Regional Water Quality Control Board. After the one-time removal of vegetation and sediment by the Corps, the project would be turned over for routine operation and maintenance by the District.

Action 2: Long-term operation and maintenance of Phase I by the District

The District would perform routine operation and maintenance of the Phase I area in perpetuity (Figure 2). While Phase IIa is also being turned over to the District for long-term operation and maintenance, the operation and maintenance of Phase II is covered under the 2014 Phase II Biological Opinion and this action is not changing. Therefore, Phase II is not part of the action considered in this Biological Assessment. As described in the 2000 Environmental Impact Statement, 2004 Supplemental EA for Phase I, and 2014 Supplemental EA for Phase II, routine operation and maintenance includes the following:

1) Annual mowing of the maintained corridor (approximately 9.9 acres). Mowing would occur outside of the rainy events and outside of the breeding season for least Bell's vireo.
2) Invasive weed removal from within the channel (primarily focused on *Arundo donax* and tamarisk).
3) Sediment removal from the maintained corridor to maintain flow conveyance, as necessary (approximately every 5 to 12 years)
4) Periodic inspections and repairs, as necessary, to channel side slopes, gabion structures, drop structures, service roads, access ramps, side drains, and other project features. Routine maintenance is not expected for most project features. However, when necessary

as the result of damage, features would be returned to design conditions to maintain functionality of the project. Repairs would be conducted using the best-management practices identified in Appendix A of this BA and in compliance with the Project's 401 WQC, Streambed Alteration Agreement, and the Phase II Biological Opinion. The County will also obtain a 404 permit from the Corps and comply with all requirements.

   a. Examples of less frequent maintenance activities include repair of degraded and eroded areas, clearing of debris and sediment from storm drains and drop inlets, repair of fences, and trash removal.

5) Long-term operation and maintenance would occur in compliance with all existing permits and commitments (see Appendix A).
6) Routine maintenance activities would not occur within the unmaintained vegetation corridor.

2.0 Endangered Species and Critical Habitat

Least Bell's vireo is the only species protected under the ESA that is known to occur within the Phase I boundary. No designated or proposed critical habitat for any species occurs within the Project Area.

2.1 Status of Least Bell's Vireo in Phase I

Vireo did not occur in the Phase I project area at the time of construction but moved into the Project Area sometime after construction completion. Surveys for vireo activity in Phase I were performed in 2016 and 2017 by RECON Environmental on behalf of the Corps (see Figure 4 and Table 1). During the two years of surveys and incidental observations, vireo use was documented throughout Phase I. Vireo observations in 2016 were limited to a single individual during each survey, the location of which moved throughout the Phase I reach. Based on the pattern of vireo use observed during 2016 surveys, it is unlikely that any vireo nesting occurred.

In 2017, one location at the far southern end of the Phase I area had recurring observations of a vireo throughout the first half of the survey season. Other vireo observations within the Phase I area during 2017 were spread throughout the channel and did not show a consistent pattern of repeated observations at the same location over multiple consecutive surveys. In 2017, vireo observations varied from 1 to 4 individuals on any single date. However, observations of multiple individuals occurred only through May. After May, surveys only observed a single individual on each of the 4 survey events. No nests were definitively identified during the 2017 survey season. However, based on the pattern of vireo use observed, biologists performing the 2017 surveys indicated that a potential vireo nest was present at the southern location of vireo activity in Phase I (see the red polygon in Figure 5).

2.2 Status of Least Bell's Vireo in the Cherry Street Basin

Vireo surveys were performed in and adjacent to the Cherry Street basin in 2016 and 2017. Vireo observations were limited to birds utilizing the narrow riparian strip occurring along the drainage ditch adjacent to Cherry Street, as well as vireo use outside of, but directly adjacent to the basin to the northwest (Figure 6). Portions of the riparian strip within the drainage ditch was burned during a fire in 2018, reducing the quality and overall acreage of habitat.

During the 2016 breeding season, vireo were continuously observed from 14 April to 6 September. Observation consisted of 1 to 4 individuals, and a nest was located on 26 May 2016.

Table 2 provides a summary of 2016 vireo observations. During the 2017 survey season, vireo were observed continuously from 14 April to 15 August. Observations consisted of 1-2 vireo on each visit, and no nesting activity was observed in 2017. Table 3 provides a summary of 2017 vireo observations.

3.0 Existing Conditions in Phase I

The construction of the majority of Phase I was completed between 2003 and 2004 with project modifications constructed in 2007. As part of Phase I construction, the unmaintained riparian corridor was vegetated with native plants. However, major storm events in 2004 and 2005 caused significant damage to the recovering habitat. After repair and upgrades to the Project in 2007, restoration of habitat occurred again between November of 2008 and March of 2009. Since that time, the habitat in Phase I, particularly within the unmaintained riparian corridor, has continued to develop.

3.1 Phase I Vegetation and Habitat

Vegetation in the channel of Phase I consists of a blend of native riparian and emergent vegetation as well as patches of invasive species and weeds. Riparian vegetation consists predominantly of willow, mulefat, and cottonwood with other species intermixed. Emergent vegetation consists of cattails and various rush/sedge species. Generally, the unmaintained corridor consists of more mature riparian vegetation while the maintained portion of the channel consists of riparian vegetation in an earlier successional stage with intermixed patches of emergent vegetation, weeds, and accumulation of wrack and debris. See Appendix B for an array of photographs taken in 2018 demonstrating the habitat currently found in Phase I.

Side slopes within Phase I, which are part of the maintained Project area, consist of a mix of previously planted desert scrub plant species as well as more recently colonized invasive and native species. Vegetation on the channel side slopes will not be removed as part of the action subject to this consultation, although the long-term operation plan includes selective removal of invasive vegetation from side slopes.

3.2 Cherry Street Basin Vegetation and Habitat

The interior portions of the Cherry Street basin where the material would be stockpiled and equipment would be staged has limited vegetation. Much of this area includes small trees, weeds, and shrubs, including a mix of both native and invasive species. Portions of vegetation were removed in the basin during construction as preparation for potential use of the site. The District also periodically mows the interior portion of the basin as part of their maintenance program. As a result, no habitat exists within the interior of the basin. The only suitable habitat for vireo that occurs in the basin is a strip of marginal quality riparian vegetation along the drainage ditch adjacent to Cherry Street. In addition, shrubbery supporting vireo also occurs just outside of the Cherry Street basin to the northwest.

4.0 Effects of the Proposed Action

The Corps anticipates that the impacts associated with operating and maintaining Phase I will be the generally the same as those previously evaluated for Phase II, as the overall goals and methods of implementing operation and maintenance for Phase I are the same. Therefore, the effects described below for Action 1 and Action 2 are the consistent with those effects previously evaluated I the Phase II Biological Opinion.

4.1 Effects Determination for Action 1

The Corps has determined that Action 1 is likely to adversely affect least Bell's vireo. Adverse effects are anticipated to be indirect, resulting from the removal of habitat use (foraging, potential future nesting) areas within the Phase I footprint, and potential reduced productivity of returning vireo pairs in the habitat in or adjacent to the Phase I maintained corridor. No direct effects to vireo are expected from the vegetation and sediment removal activities, as these actions would occur outside of the vireo occupation season.

The Phase I design was developed considering that one portion of the channel would be maintained in perpetuity, while the other portion would function as riparian habitat. Channel design features include a berm between channel segments, an offset of riparian planting from the edge of the maintained channel, and a plant palette layout that considered channel morphology, water availability, and the adjacent maintenance actions. The vegetation existing in the unmaintained corridor is well established, with well-established root systems, and is not expected to be particularly vulnerable to work in the adjacent maintained corridor. As a result of the considerations during planning and design, as well as the current condition of vegetation, the removal of sediment from the maintained portion of Phase I is not expected to have indirect impacts to the adjacent unmaintained riparian corridor.

Since sediment removal activity will occur outside of the nesting season, and no vireo habitat would be removed in the Cherry Street basin area, no effects to vireo at the Cherry Street basin area are anticipated.

4.2 Effects Determination for Action 2

The Corps has determined that Action 2 will have no effect on least Bell's vireo. Action 2 would be implemented in compliance with all applicable avoidance and minimization measures (Appendix A), and would occur outside of the vireo occupation season. These measures include all of the appropriate Conservation Measures previously incorporated into the Phase II project. In addition, future maintenance would not allow vegetation in the Phase I maintained channel to mature to the point that vireo would again use it. While the long term operation and maintenance plan will ensure that mature vegetation does not establish in the maintained corridor, riparian and emergent habitats in Murrieta Creek typically recover rapidly. Therefore, between routine vegetation removal events, it is expected that vireo will still be able to utilize the maintained corridor for foraging, dispersal, and other non-nesting activities. As a result, once Action 1 is implemented, the Phase I maintained channel would be kept in a state that would preclude future vireo nesting. Therefore, no effect to the adjacent unmaintained corridor would be expected to occur during the non-breeding season.

5.0 Preparers and Reviewers

Prepared by:

Jesse Ray – Biologist – U.S. Army Corps of Engineers

Reviewed by:

Priyodarshi Majumdar – Environmental Coordinator – U.S. Army Corps of Engineers

Hayley Lovan – Chief, Environmental Planning Section – U.S. Army Corps of Engineers

Randy Sheppeard – Senior Flood Control Planner – Riverside County Flood Control and Water Conservation District

Albert Martinez – Engineering Project Manager – Riverside County Flood Control and Water Conservation District

6.0 Figures

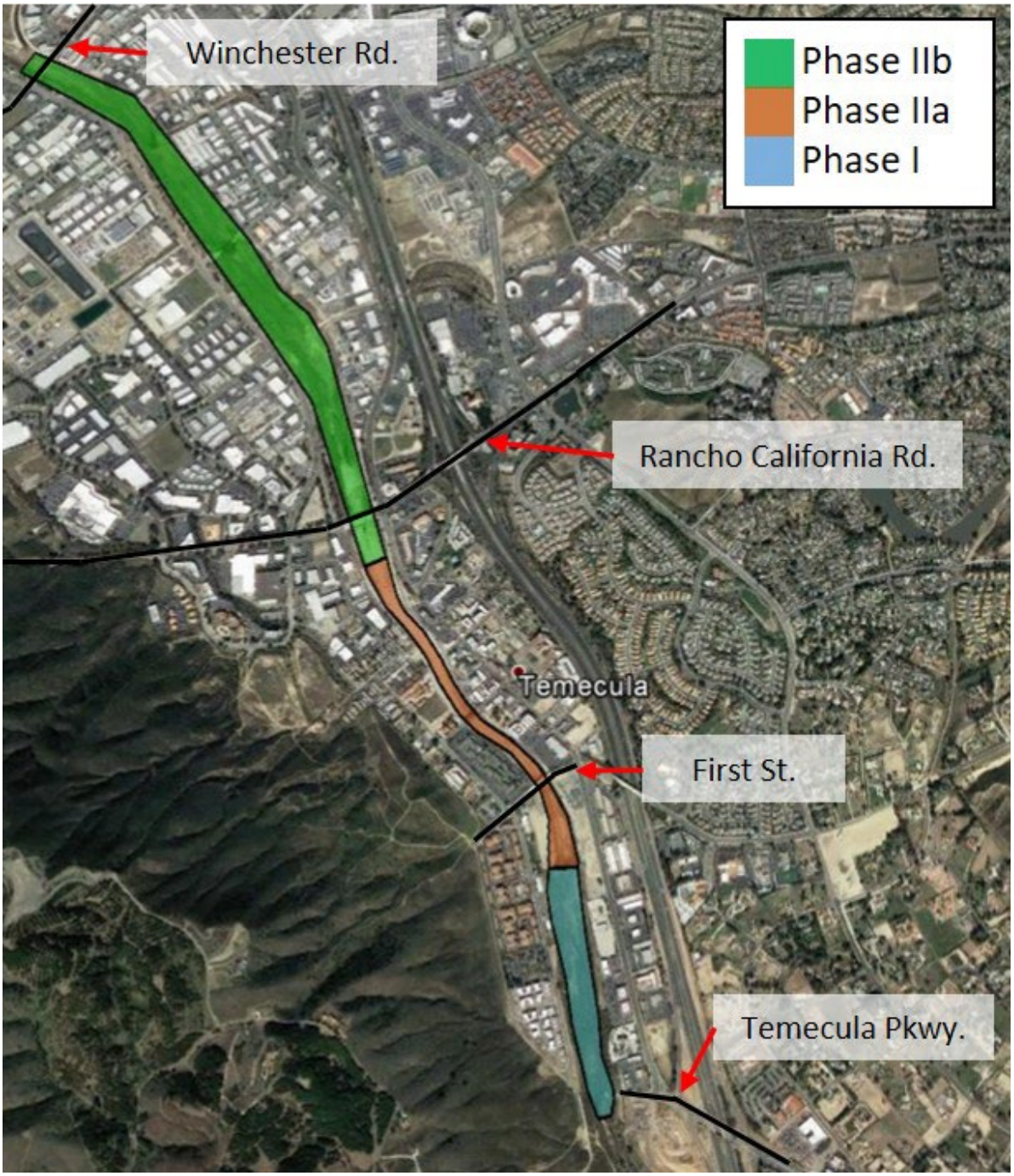

Figure 1. Map of Phases I and II of the Murrieta Creek Project in Temecula, California.

Figure 2. Map of the Phase I area (tan polygon), the approximate location of the unmaintained vegetation corridor (green polygon), and the maintained corridor where the Corps will remove vegetation and sediment prior to turn-over (brown polygon).

Figure 3. Map of the Phase IIa area (orange polygon) and the unmaintained vegetation corridor (green polygon). Note that the green polygon extending beyond the Phase IIa polygon has not yet been built, but would be part of Phase IIb, once constructed.

Figure 4. Map of the temporary sediment storage/stockpile location at the intersection of Cherry Street and Jefferson Avenue.

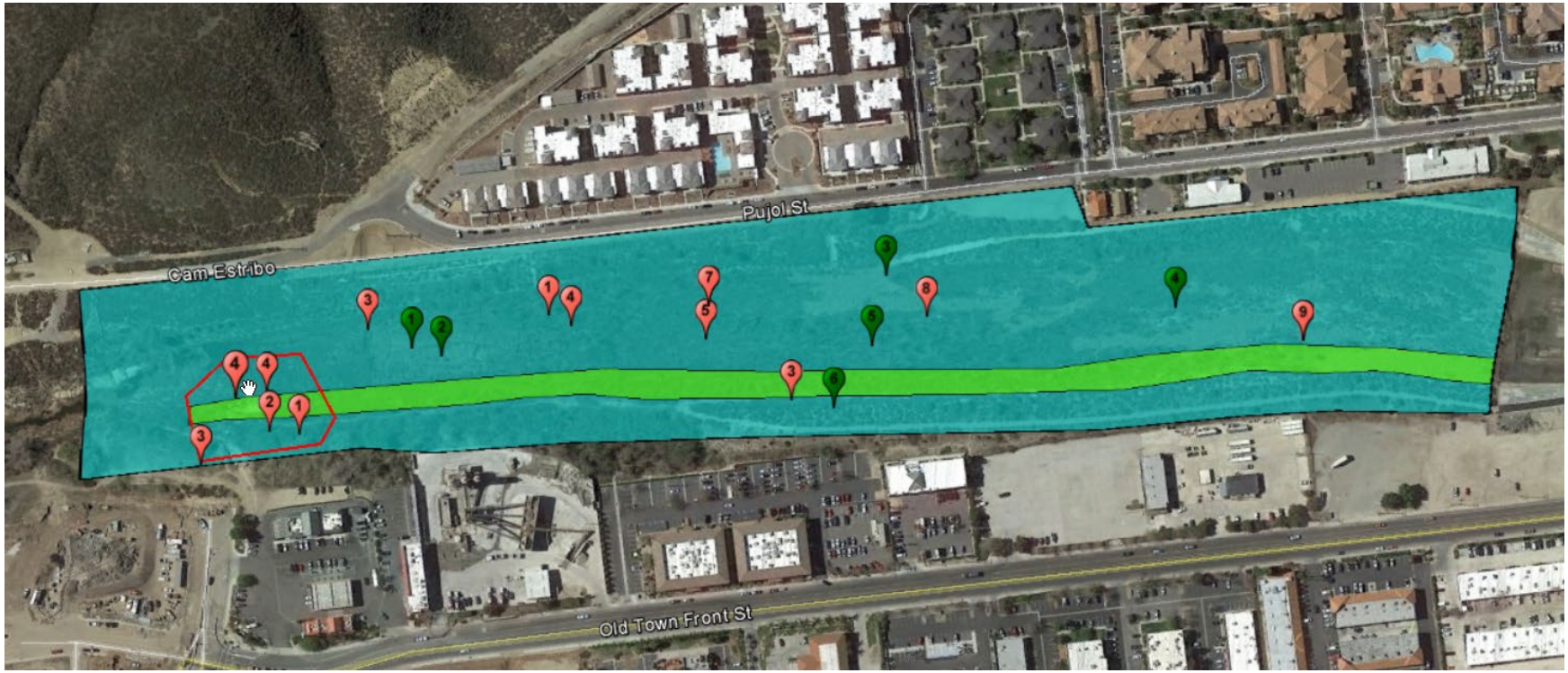

Figure 5. Map of the Phase I project area showing locations of vireo observations in 2016 (green) and 2017 (red), with the unmaintained riparian corridor indicated by the bright green polygon. Numbers in each observation indicate which survey date from Table 1 the sighting corresponds with. The red outlined area indicates the area that potentially supported a vireo nest in 2017.

Figure 6. Map of the northern edge of the Cherry Street basin area showing locations of vireo observations in 2016 (green) and 2017 (red). Letters in each observation indicate which survey date from Table 2 & 3 the sighting corresponds with. The red outlined area indicates the area where a vireo nest was observed in 2016.

7.0 Tables

Table 1. Summary of vireo observations in Phase I during the 2016-2017 bird breeding seasons.

Date	Activity	Notes
15 Apr 2016	LBVI Survey #1	No detections.
27 Apr 2016	LBVI Survey #2	1 single adult male in Phase I, 1,000 feet downstream of Phase II.
26 May 2016	LBVI Survey #3	1 single adult male in Phase I, 1,000 feet downstream of Phase II.
8 Jun 2016	LBVI Survey #4	1 single adult male in Phase I, 1,000 feet downstream of Phase II; 1 single adult male downstream of Phase I, 3,500 feet downstream of Phase II.
20 June 2016	LBVI Survey #5	1 single adult male in Phase I, 1,000 feet downstream of Phase II.
8 July 2016	LBVI Survey #6	1 single adult male in Phase I, 600 feet downstream of Phase II.
20 July 2016	LBVI Survey #7	1 single adult male in Phase I, 1,200 feet downstream of Phase II.
30 July 2016	LBVI Survey #8	1 single adult male in Phase I, 1,200 feet downstream of Phase II.
13 Apr 2017	LBVI Survey #1	2 Adult LBVI detected in Phase I
3 May 2017	LBVI Survey #2	1 adult LBVI detected in Phase I
19 May 2017	LBVI Survey #3	1 adult female and 3 adult male LBVI detected in Phase I
31 May 2017	LBVI Survey #4	3 adult LBVI detected in Phase I
13 June 2017	LBVI Survey #5	1 LBVI detected in Phase I (1100 to 1500 feet downstream of Phase II);
23 June 2017	LBVI Survey #6	1 adult LBVI detected in Phase I (1100 to 1500 feet downstream of Phase II); 1 adult LBVI detected south of Phase I.
6 July 2017	LBVI Survey #7	1 LBVI detected in Phase I (1100 to 1500 feet downstream of Phase II)
21 July 2017	LBVI Survey #8	1 LBVI detected in Phase I (1100 to 1500 feet downstream of Phase II)
7 Sept 2017	General Biological Monitoring	1 adult LBVI detected in Phase I (375 feet south of Phase II)
14 Sept 2017	General Biological Monitoring	1 adult LBVI detected in Phase I (375 feet south of Phase II)

Table 2. Summary of vireo observations in the vicinity of the Cherry Street basin during the 2016 bird breeding season.

Date	Survey	Letter	Notes
14 April 2016	General Biological Monitoring	A	One vireo
9 May 2016	Burrowing Owl Surveys	B	One vireo
13 May 2016	General Biological Monitoring	C	One vireo
18 May 2016	General Biological Monitoring	D	One vireo
19 May 2016	General Biological Monitoring	E	Three vireo
20 May 2016	General Biological Monitoring	F	Two vireo
24 May 2016	General Biological Monitoring	G	One vireo
25 May 2016	General Biological Monitoring	H	Two vireo
26 May 2016	Protocol Survey #3	I	Three vireo and nest
31 May 2016	Burrowing Owl Surveys	J	Three vireo
1 June 2016	General Biological Monitoring	K	One vireo
8 June 2016	Protocol Survey #4	L	Three vireo
17 June 2016	General Biological Monitoring	M	Two vireo
28 June 2016	General Biological Monitoring	N	One vireo
30 June 2016	General Biological Monitoring	O	Two vireo
7 July 2016	General Biological Monitoring	P	One vireo
29 July 2016	General Biological Monitoring	Q	One vireo
4 August 2016	General Biological Monitoring	R	One vireo
12 August 2016	General Biological Monitoring	S	One vireo
19 August 2016	General Biological Monitoring	T	Three vireo
26 August 2016	General Biological Monitoring	U	Two vireo
2 September 2016	General Biological Monitoring	V	Four vireo
6 September 2016	General Biological Monitoring	W	One vireo

Table 3. Summary of vireo observations in the vicinity of the Cherry Street basin during the 2017 bird breeding season.

Date	Survey	Letter	Notes
14 April 2017	General Biological Monitoring	A	Two vireo
19 April 2017	General Biological Monitoring	B	Two vireo
21 April 2017	General Biological Monitoring	C	One vireo
28 April 2017	General Biological Monitoring	D	One vireo
1 May 2017	General Biological Monitoring	E	One vireo
3 May 2017	Protocol Survey #2	F	Two vireo
9 May 2017	General Biological Monitoring	G	Two vireo
11 May 2017	General Biological Monitoring	H	One vireo
25 May 2017	General Biological Monitoring	I	One vireo
14 June 2017	General Biological Monitoring	J	One vireo
16 June 2017	General Biological Monitoring	K	One vireo
23 June 2017	Protocol Survey #6	L	One vireo
26 June 2017	General Biological Monitoring	M	One vireo
30 June 2017	General Biological Monitoring	N	Two vireo
5 July 2017	General Biological Monitoring	O	One vireo
7 July 2017	General Biological Monitoring	P	One vireo
12 July 2017	General Biological Monitoring	Q	One vireo
15 August 2017	General Biological Monitoring	R	One vireo

Appendix A. Existing Environmental Commitments

The following Conservation Measures and Terms and Conditions are from the 2014 Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project Phase II Biological Opinion (FWS-WRIV-07B0011-13F0319). Only those measures directly related to operation and maintenance have been summarized below.

Conservation Measures

3. Disturbance or removal of riparian vegetation will not exceed the limits authorized for construction and operation and maintenance. Temporarily disturbed areas will be restored to their original condition or better and will be described in the revegetation plan. Restoration will include the revegetation of stripped or exposed areas with native species.

4. To minimize construction and operation and maintenance impacts to vireos, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of vireo nesting season).

7. With the exception of emergency repairs, all moving, sediment removal, and scheduled maintenance activities involving heavy equipment or human presence in riparian habitat will be conducted between August 15 and March 15 (outside of vireo nesting season). Some repairs may require work to occur for extended periods of time. If non-emergency repair work is to be conducte3d during vireo nesting season, the work area will be surveyed for active vireo nests. If active nests are identified in the work area, the nests and an appropriate buffer (to be determined by the qualified biologist in coordination with the Service) will be avoided until the end of the nesting season. The appropriate buffer area will be identified based on the type of activity/repair work. A qualified biological monitor will be present during all non-emergency repair activities within the unmaintained riparian zone between March 15 and August 15.

8. Appropriate coordination/consultation will occur with resource agencies (Service, CDFW and Corps regulatory as appropriate) when emergency maintenance activities are required during the nesting season. Resource agency representatives will be notified as early as possible and emergency coordination/consultation conducted and any necessary permits or approvals obtained prior to action taken. Under situations of imminent threat to life or property, obtaining permits and approvals prior to taking of an emergency action may not be possible. Under such circumstances, notification would be made to resource agency representatives of decision to proceed and emergency coordination/consultation would be performed after the emergency action. Contents of the notification will include: (1) point of contact information (name, address, email address, telephone number); (2) location of proposed project; (3) brief description of imminent threat to life or property and proposed project's purpose and need; (4) description of methods anticipated to be used to rectify the situation; and (5) brief description of the project area's existing condition and anticipated environmental impacts resulting from the proposed work.

9. With the exception of scheduled invasive plant removal or temporary impacts from emergency repair work, vegetation will not be removed from the unmaintained riparian zone as part of the scheduled maintenance plan. Large trees and shrubs above 3-4 feet on the vegetated slopes that would affect the flow conveyance capacity of the channel and integrity of the side slope protection would be trimmed or removed. All other shrubs on the side slopes would be maintained by cutting to maintain a maximum height of 3-4 feet.

a. If vegetation is removed from the unmaintained riparian zone or side slopes as a result of emergency repairs, the site will be stabilized and revegetated with a native seed mix, cuttings and/or select container plantings to ensure the timely replacement of riparian trees removed as a result of the repair work. Revegetation plantings will be of sufficient quantity to ensure the rapid establishment of vegetation. Replacement plantings of riparian trees will not be required if the vegetation was removed as a result of natural scouring.

10. The Corps will include a provision in the OMRR&R Manual indicating that: If the District fails to perform the required vegetation maintenance for 2 consecutive years, prior to its resumption of maintenance, the District will conduct a vireo survey in the deferred maintenance area and provide a report to the Corps and the Service indicating whether the deferred maintenance area is being used by vireos. This report will be used to assist the Corps in determining whether the resumption of maintenance would cause effects to vireo not considered in the biological opinion and reinitiation of consultation is required.

The measures identified below have been incorporated into the proposed Project for the purpose of avoiding and/or minimizing vireo effects downstream of the Project and/or within the surrounding watershed.

11. Equipment will be in proper working condition and inspected for leaks and drips on a daily basis prior to commencement of any in-channel maintenance work during construction and maintenance activities.

12. A spill prevention and remediation plan will be developed and implemented during construction and operation and maintenance activities. Workers will be instructed as to the requirements listed in the plan. Construction supervisors and workers and maintenance personnel will be instructed to (1) be alert for indications of equipment-related contamination such as stains and odors, and (2) respond immediately with appropriate actions as detailed in the spill prevention and remediation plan if indications of equipment related contamination are noted.

13. Sediment barriers (e.g., sandbags, silt fence, temporary containment dam) will be placed downstream of each major construction operation to prevent downstream sedimentation.

14. Areas of exposed soil, dirt stockpiles, dirt berms, and temporary dirt roads will be stabilized with controlled amounts of sprinkled water during construction.

15. At the close of each workday, any materials tracked onto the street or lying uncontained in the construction areas, including trash will be collected and disposed of appropriately.

16. Concrete, asphalt, and masonry wastes and will be contained and disposed of away from the Project construction sites.

17. Refueling and maintenance of equipment and vehicles will be prohibited near the flood control channel during construction and operation and maintenance. Prohibited locations will include all land and structures (e.g., bridges) within 50 feet of the creek.

18. Spill kits containing absorbent materials will be kept at the Project site during construction and implementation of operation and maintenance activities.

19. Fuels and other hazardous materials will be stored away from the Project drainage area.

Terms and Conditions

1.4. The Project will use best management practices to prevent the discharge or dispersal of crude oil, petroleum products, or other toxic substance or hazardous material into the creek. The Corps or their agents shall be responsible for inspecting the Project area to ensure that habitat, including creation and conservation areas, are free from petroleum products and contaminant spills prior to, and during the implementation of the Project.

1.5 The Corps (during construction) and the District (during operation and maintenance) shall monitor and report on compliance with the established take thresholds for vireos associated with the proposed action by: (1) yearly reporting on the extent of vireo habitat altered and the number of vireos harmed or harassed as a direct or indirect result of Project-construction activities; and (2) the yearly timing and extent of operation and maintenance activities. The reporting period will be from March 1 to March 1 and the report is due on July 15 each year.

Additional environmental commitments which will be followed when implementing operations and maintenance of Phase I and Phase II come from the following sources:

- 2000 Final Environmental Impact Statement/Environmental Impact Report for the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project (EIS/EIR; USACE, 2000).
- 2003 Murrieta Creek Flood Control, Environmental Restoration and Recreation Project Supplemental Environmental Assessment and EIR Addendum for Phase I Modifications (Phase I SEA; USACE 2003).
- 2014 Murrieta Creek Flood Control, Environmental Restoration and Recreation Project Supplemental Environmental Assessment and EIR Addendum for Phase II Modifications (Phase II SEA; USACE 2014).
- Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project Clean Water Act Section 401 Water Quality Certification (File No. 03C-046).
- Riverside County Flood Control and Water Conservation District Murrieta Creek Phase II Streambed Alteration Agreement (Notification No. 1600-2012-0200-R6).

The following environmental commitments are pertinent to least Bell's vireo. This list is not exhaustive of all project commitments, as many documents contain redundant commitments or avoidance measures not pertinent to vireo.

<u>2000 EIS</u>

1. Channel construction and maintenance activities will not be conducted from December 1 through February 28 in order to avoid winter rains and to correspondingly reduce the potential for significant water quality impacts.
2. The removal of riparian vegetation deemed suitable for nesting will be prohibited during the period March 15 through July 30.

2014 SEA

1. To minimize construction and operations and maintenance impacts to nesting birds, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of the avian nesting season).
2. With the exception of emergency repairs, all mowing, sediment removal, and scheduled maintenance activities involving heavy equipment or human presence in the riparian habitat will be conducted between August 15 and March 15 (outside of the bird nesting season). Some emergency repairs may require maintenance work to occur for extended periods of time. If non-emergency repair work is to be conducted during the nesting season, the work area will be surveyed for active bird nests. If active nests are identified in the work area the nests and appropriate buffer (to be determined by the qualified biologist in coordination with the USFWS) will be avoided until the end of the nesting season. The appropriate buffer area will be identified based on the type of activity/repair work. A qualified biological monitor will be present during all non-emergency repair brush clearing activities within the unmaintained riparian/low flow corridor between March 15 and August 15.
3. Appropriate coordination/consultation will occur with resource agencies (USFWS, CDFW and Corps Regulatory as appropriate) when emergency maintenance activities are required during the nesting season. Resource agency representatives will be notified as early as possible and emergency coordination/consultation conducted and any necessary permits or approvals obtained prior to action taken. Under situations of imminent threat to life or property, obtaining permits and approvals prior to taking of an emergency action may not be possible. Under such circumstances, notification would be made to resource agency representatives of decision to proceed and emergency coordination/consultation would be performed after the emergency action. Contents of the notification will include: 1) point of contact information (name, address, email address, telephone number); 2) location of proposed project; 3) brief description of imminent threat to life or property and proposed project's purpose and need; 4) description of methods anticipated to be used to rectify the situation; and 5) brief description of the project area's existing condition and anticipated environmental impacts resulting from the proposed work.
4. With the exception of scheduled invasive plant removal or temporary impacts from emergency repair, vegetation will not be removed from the unmaintained riparian/low flow corridor as part of the scheduled maintenance plan. Large trees and shrubs above 3-4 feet on the vegetated slope protection would be trimmed or removed. All other shrubs on the side slopes would be maintained by cutting to maintain a maximum height of 3-4 feet.
5. If vegetation is removed from the unmaintained riparian corridor or side slopes as a result of emergency repairs, the site will be stabilized and revegetated with native seed mix, cuttings, and/or select container plants to ensure the timely replacement of riparian trees removed as a result of the repair work. Revegetation plantings will be of sufficient quantity to ensure the rapid establishment of vegetation. Replacement plantings of riparian trees will not be required if the vegetation was removed as a result of normal scouring.
6. The Corps will include provisions in the OMRR&R Manual indicating that if the District fails to perform the required vegetation maintenance for 2 consecutive years, prior to its resumption of maintenance, the District will conduct a vireo survey in the deferred maintenance area and provide a report to the Corps and the USFWS indicating whether the deferred maintenance area is being used by vireos. This report will be used to assist

the Corps in determining whether the resumption of maintenance would cause an effect to vireo not considered in the BO and reinitiation of consultation is required.

401 WQC

1. Routine maintenance activities shall not be conducted from December 1 to February 28 in order to avoid winter rains.
2. Mowing, clearing, grading, sediment removal, and installation of riprap or other hardscape materials shall be prohibited within the areas designated as unmaintained vegetated corridor, upland slope transition zone, and/or mitigation zones.
3. If the low flow, active channel of Murrieta Creek meanders into the unmaintained vegetated corridor, routing channel maintenance shall not divert the flow back into the maintained channel zone.
4. Routine maintenance activities within the channel (e.g. annual mowing) shall not occur between March 15 and September 15.

Appendix B. Photographic Documentation of Phase I Vegetation

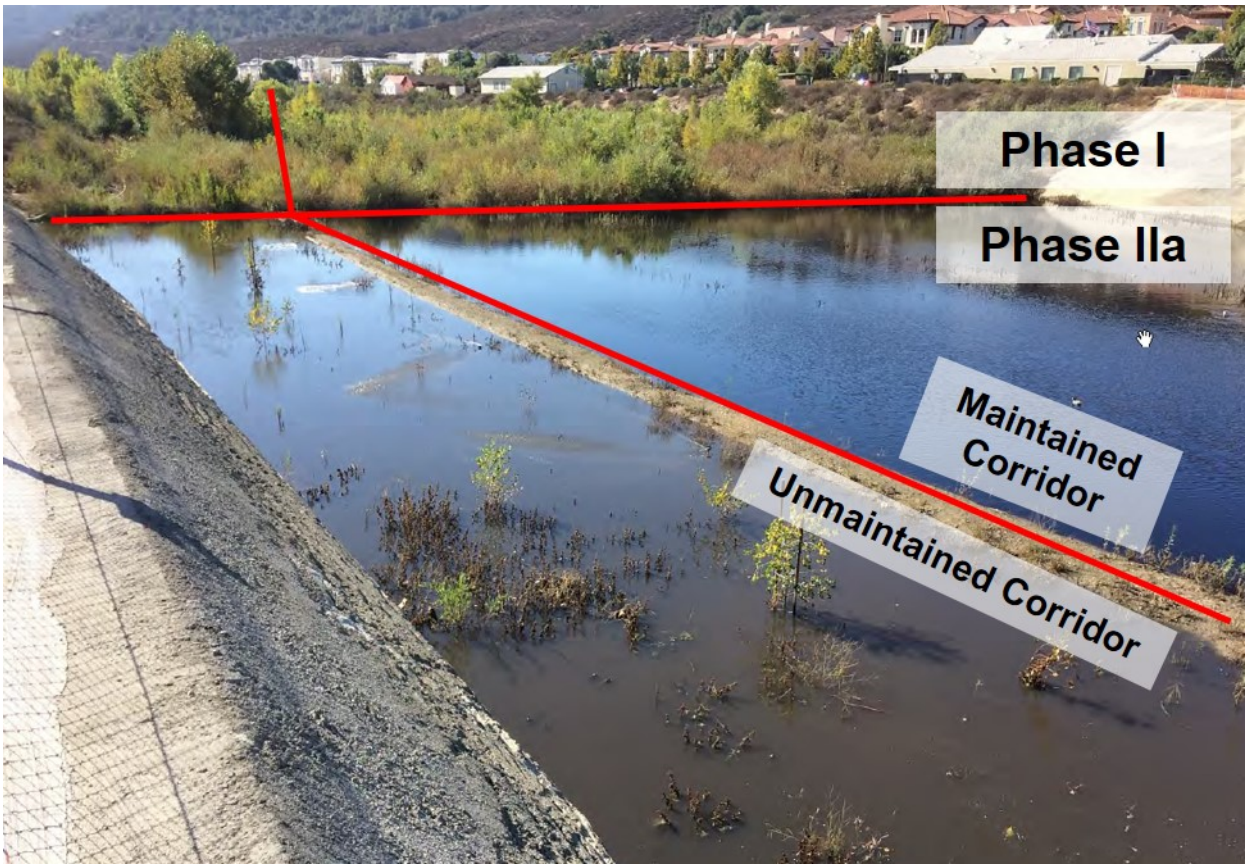

Photo 1. Image of the Phase I / Phase II boundary as seen from the eastern bank of Phase IIa looking downstream (south) into Phase I. Notice the largest riparian vegetation within Phase I as seen in this photograph occurs within the unmaintained corridor, while, the maintained corridor of the channel contains less mature vegetation.

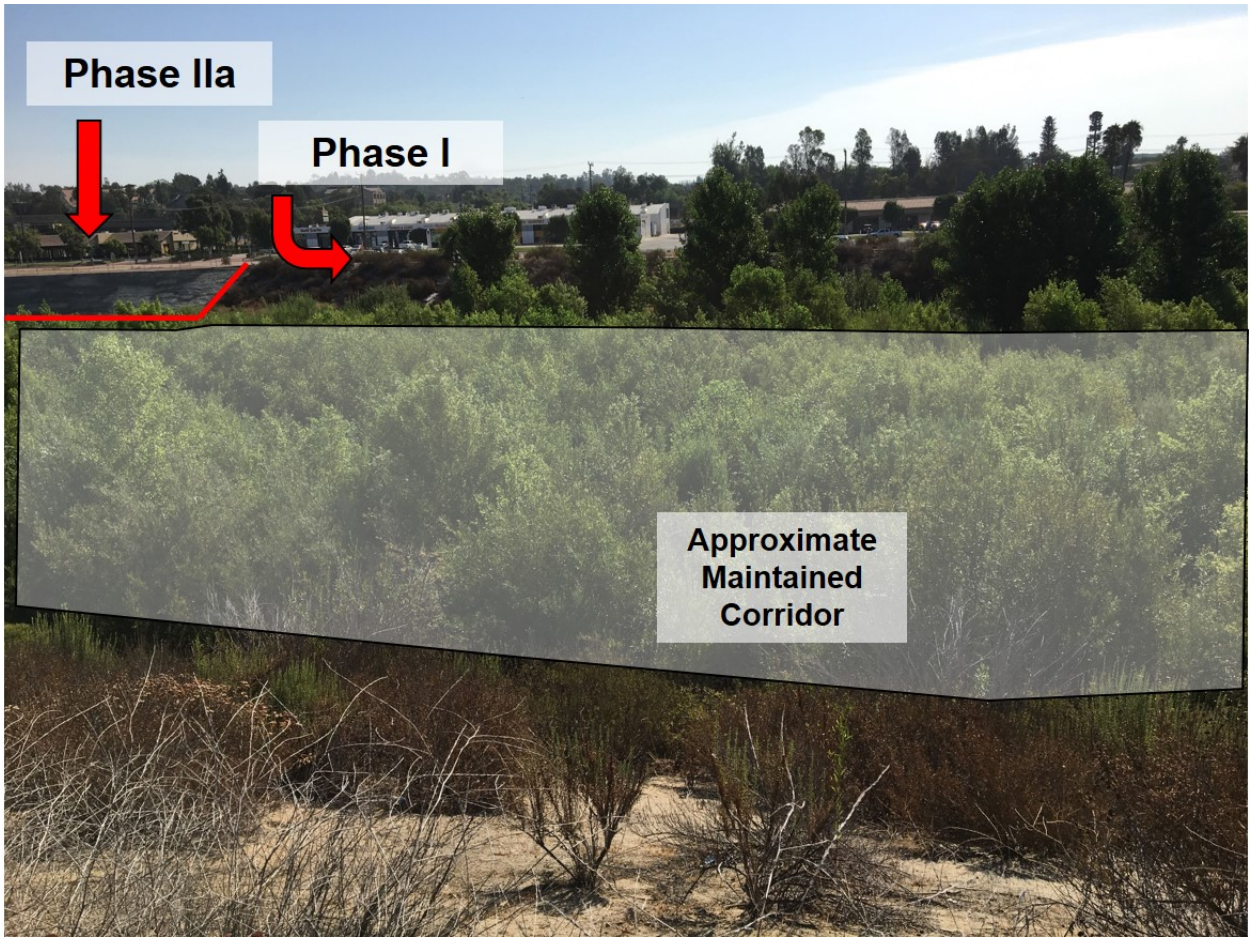

Photo 2. Image looking east into Phase I from the west side of the channel. Notice the Phase II boundary can be seen in the left edge (north) in the photo. The mature trees in the distance are in the unmaintained corridor, while the majority of vegetation in the foreground is the maintained corridor.

Photo 3. View of Phase I looking north from the channel bottom within the maintained portion of the channel, with the unmaintained corridor visible in the background. Note the patches of emergent vegetation and areas of weedy plants and wrack. Typical of many places in the Phase I maintained corridor.

Photo 4. View of Phase I looking east from the channel bottom within the maintained portion of the channel, with the unmaintained corridor visible in the background. Note the patches of abundant wrack and weeds intermixed with young riparian growth.

Murrieta Creek Phase I Consultation Request

Additional Information

Approximate areas of vegetation and sediment removal, as well as the size of the mitigation zone to be avoided, can be found in the table below.

Approximate Area of Vegetation Removal in Phase I	9.93 acres
Approximate Area of Mitigation (no vegetation removal)	2.75 acres

Clarification on Access and Staging Areas

Information regarding the sediment storage site at along Jefferson and Cherry Street is included in the original Biological Assessment. However, access and staging areas from within the Phase II boundary were not discussed. Portions of the Phase II project area directly adjacent to Phase I will be utilized for site access and temporary staging, as shown in the map below. The Corps has an existing Biological Opinion for Phase II of this project. The use of portions of Phase II for access and staging during the Phase I action under consultation will not result in any additional impacts to least Bell's vireo, and actions performed at these locations would remain consistent with the actions covered under the Phase II Biological Opinion.

Map of Phase I & Phase II boundary showing the staging area (red polygon) and potential access points (red arrows) into Phase I.

Additional Details on Vireo Use in Phase I

Vireo use has been documented in both the maintained and mitigation portions of the Phase I channel. Vireo survey information is summarized and displayed graphically in the Biological Assessment. Generally, the habitat in the maintained portion of Phase I is not expected to be suitable habitat for vireo nesting currently, although the maintained portion likely provides foraging and dispersal habitat. The higher quality habitat within Phase I that could potential support vireo nesting is predominantly limited to the mitigation portion of the channel. The existing habitat conditions in Phase I are described in Section 3 of the Biological Assessment. No vireo nests were confirmed in Phase I as the result of 2016-2017 surveys. However, one location within the mitigation zone potentially supported a vireo nest, as described in the Biological Assessment.

Appendix D

Engineering Design Plans for Sediment and Vegetation Removal

US Army Corps of Engineers®
LOS ANGELES DISTRICT

RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK PROJECT
PHASE 1 SEDIMENT REMOVAL

SOLICITATION NO.:

CONTRACT NO.:

ISSUE DATE:

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: F. NISTOR
DRAWN BY: F.NISTOR
CHECKED BY: J. ROCHA
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NAME
CAD FILE 104784_G-001.dgn

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
LOS ANGELES, CALIFORNIA

RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK PROJECT

PHASE 1 SEDIMENT REMOVAL
COVER

SHEET ID

G-001

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8:45:54 AM 4/24/2019 PD: AEC_pdf.pltcfg DS: AEC_Screen.dscript

GENERAL

SHEET NO.	TITLE	FILE NO.
G-001	TITLE SHEET	XXX/XXXX
G-002	INDEX TO CONTRACT DRAWINGS	XXX/XXXX
G-003	PROJECT LOCATION/SEDMENT STORAGE SITE	XXX/XXXX

CIVIL

SHEET NO.	TITLE	FILE NO.
C-101	SITE PLAN - 1	XXX/XXXX
C-102	SITE PLAN - 2	XXX/XXXX
C-103	SITE PLAN - 3	XXX/XXXX

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MARK	DESCRIPTION	DATE

DESIGNED BY: F. NISTOR
DRAWN BY: F. NISTOR
CHECKED BY: J. ROCHA
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NAME
SIZE: ANSI D
CAD FILE 104784_G-002.dgn

U.S. ARMY CORPS OF ENGINEERS
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LOS ANGELES, CALIFORNIA

RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK PROJECT

INDEX TO DRAWINGS

SHEET ID

G-002

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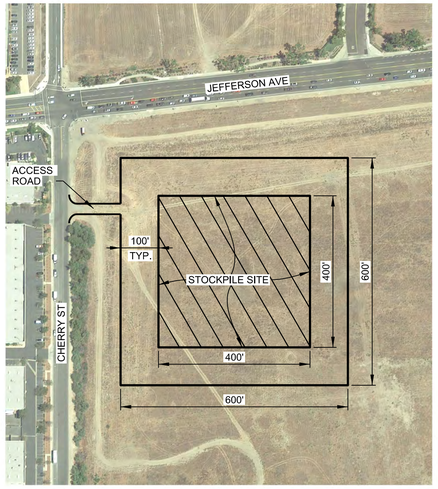
NOTES

1. SEDIMENT REMOVED MUST BE HAULED AND PLACED AT THE STOCKPILE LOCATION. SEE DETAIL E1.
2. ORGANIC MATERIAL REMOVED MUST BE HAULED TO A DUMPSITE AS DIRECTED BY USACE'S FIELD PERSONNEL.
3. INSTALL BMP'S AROUND STOCKPILE AREA.



PLAN NORTH

E1 STOCKPILE SITE
SCALE: 1"=200

0 200' 400'

PLAN NORTH

E5 INGRESS/EGRESS
SCALE: NTS

PLAN NORTH

A1 PROJECT LOCATION MAP AND HAUL ROUTE
SCALE: N.T.S.

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SOLICITATION NO.:
CONTRACT NO.:
FILE NAME
SIZE: ANSI D
CAD FILE 104784_G-003.dgn

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PROJECT LOCATION/SEDIMENT STORAGE SITE

SHEET ID
G-003

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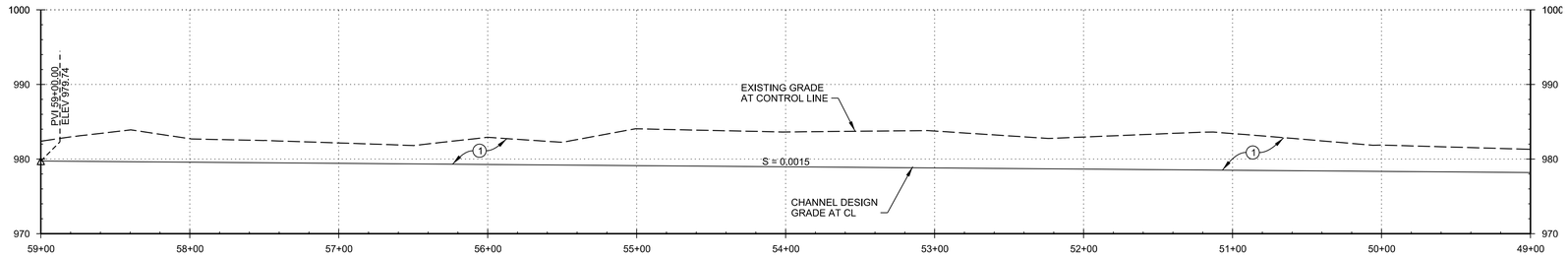
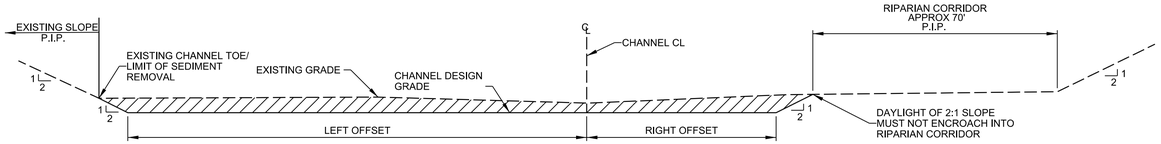


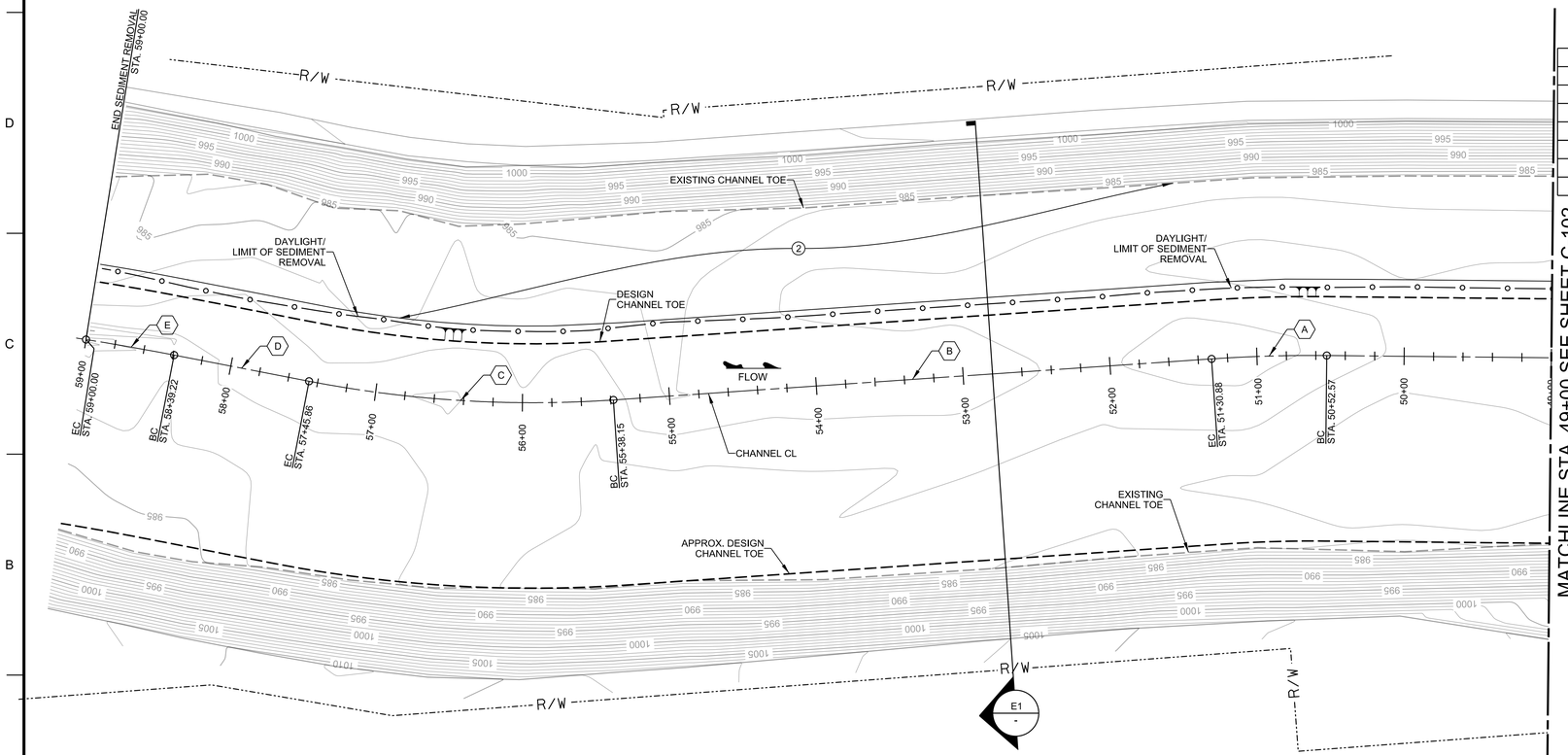
F1 PROFILE: SEDIMENT REMOVAL - SITE 1

SCALE: H:1"=50' V=1"=10'



E1 CROSS SECTION - STA. 40+00 TO STA. 59+00 (LOOKING UPSTREAM)

SCALE: NTS



A1 PLAN: SEDIMENT REMOVAL - SITE 1

SCALE: 1"=50'

CONSTRUCTION NOTES

1. EXISTING SEDIMENT TO BE REMOVED.
2. APPROX LIMITS OF RIPARIAN CORRIDOR. PROTECT IN PLACE.

LEGEND:

SEDIMENT TO BE REMOVED

NOTES:

1. RIGHT-OF-WAY LINE IS SHOWN FOR INFORMATION ONLY. ACCURACY IS NOT GUARANTEED.
2. SEDIMENT REMOVED MUST BE HAULED AND STOCKPILED. FOR STOCKPILE LOCATION SEE DETAIL E1 ON SHEET G-003.
3. ORGANIC MATERIAL REMOVED MUST BE HAULED TO A DUMPSITE AS DIRECTED BY USACE'S FIELD PERSONNEL.
4. INSTALL BMP'S AROUND STOCKPILE AREA.
5. ANY QUESTIONS ABOUT LIMITS OF EXCAVATION MUST BE DISCUSSED WITH THE COR.

CURVE DATA					B.C.		E.C.	
⟨-⟩	R=	Δ=	L=	T=	NORTHING	EASTING	NORTHING	EASTING
A	1,000'	4°29'13.17"	78.31'	39.18'	2,121,476.89	6,288,577.32	2,121,553.15	6,288,559.56
B	-	-	407.27'	-	2,121,553.15	6,288,559.56	2,121,945.88	6,288,451.75
C	800'	14°52'33.84"	207.71'	104.44'	2,121,945.88	6,288,451.75	2,122,151.04	6,288,423.24
D	-	-	93.36'	-	2,122,151.04	6,288,423.24	2,122,244.39	6,288,422.47
E	1,850.00'	1°52'56.69"	60.78'	30.40'	2,122,244.39	6,288,422.47	2,122,305.15	6,288,420.96
F	-	-	-	-	-	-	-	-

CHANNEL BOTTOM APPROX. OFFSET (LOOKING UPSTREAM)		
STATION	LEFT	RIGHT
59+00	126.00'	40.00'

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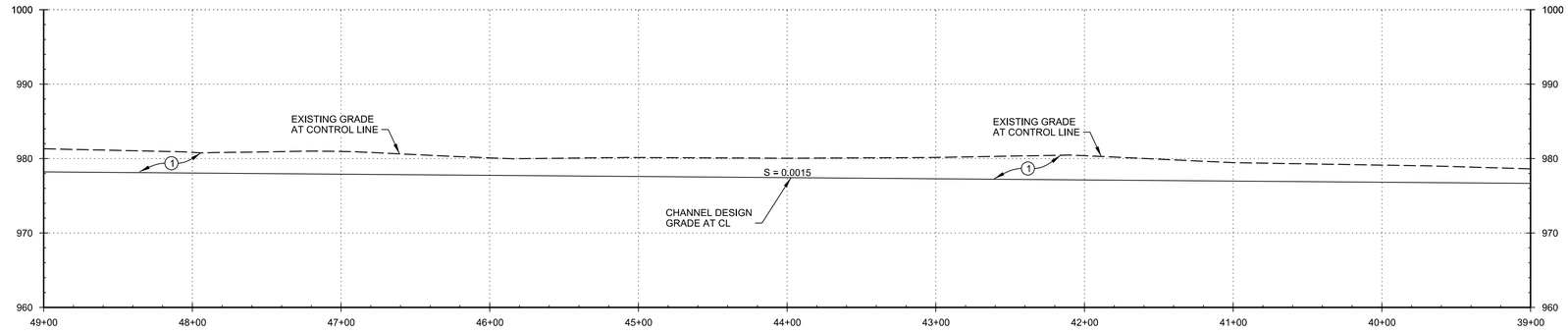
MURRIETA CREEK PROJECT

SITE PLAN - 1

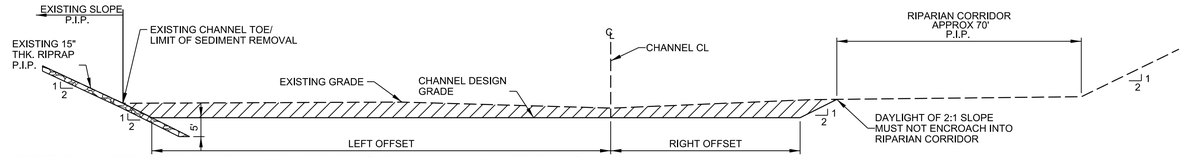
SHEET ID

C-101



F1 PROFILE: SEDIMENT REMOVAL - SITE 2

SCALE: H:1"=50' V=1"=10'



E1 CROSS SECTION - STA. 34+00 TO STA. 40+00 (LOOKING UPSTREAM)

SCALE: NTS

0 50' 100'

0 10' 20'

CONSTRUCTION NOTES

1. EXISTING SEDIMENT TO BE REMOVED.
2. APPROX LIMITS OF RIPARIAN CORRIDOR. PROTECT IN PLACE.
3. EXISTING 15" THK. RIPRAP WITH 5' TOEDOWN. PROTECT IN PLACE.

LEGEND:

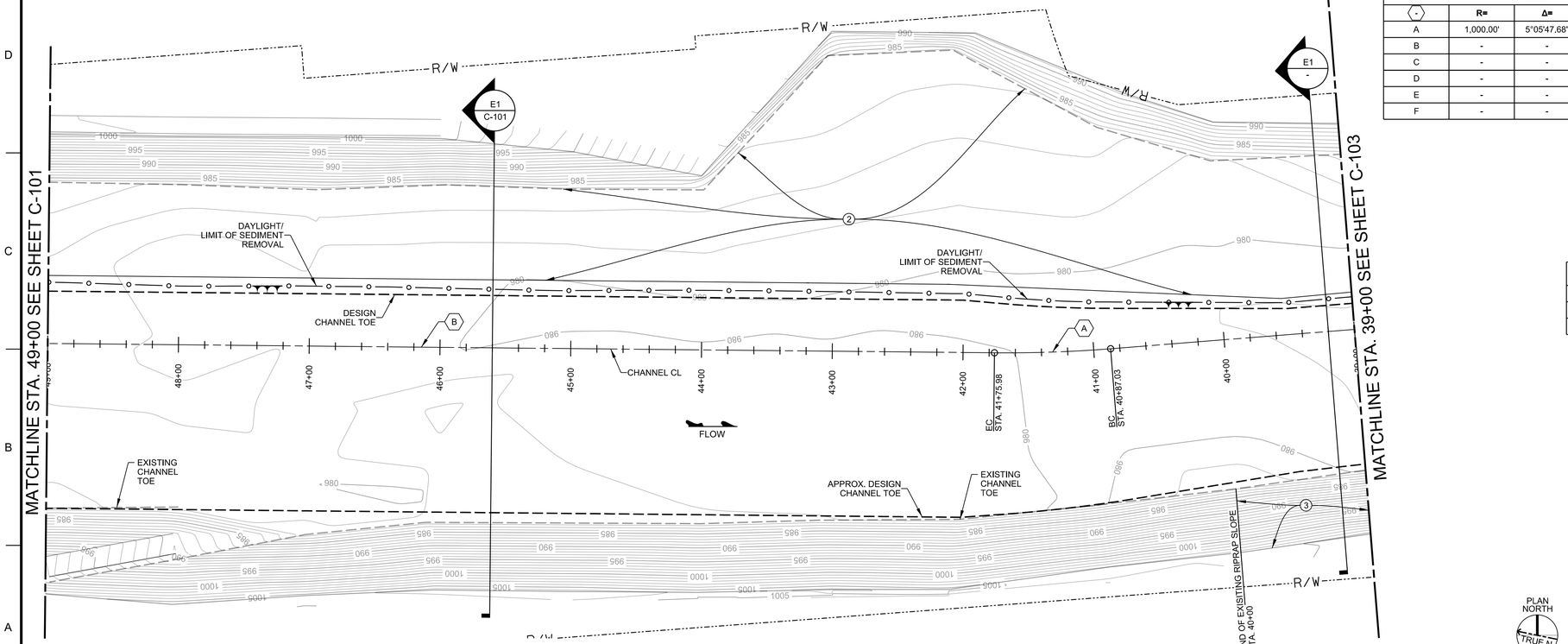
SEDIMENT TO BE REMOVED

NOTES:

1. RIGHT-OF-WAY LINE IS SHOWN FOR INFORMATION ONLY. ACCURACY IS NOT GUARANTEED.
2. SEDIMENT REMOVED MUST BE HAULED AND STOCKPILED. FOR STOCKPILE LOCATION SEE DETAIL E1 ON SHEET G-003.
3. ORGANIC MATERIAL REMOVED MUST BE HAULED TO A DUMPSITE AS DIRECTED BY USACE'S FIELD PERSONNEL.
4. INSTALL BMP'S AROUND STOCKPILE AREA.
5. ANY QUESTIONS ABOUT LIMITS OF EXCAVATION MUST BE DISCUSSED WITH THE COR.

CURVE DATA					B.C.		E.C.	
⬡	R=	Δ=	L=	T=	NORTHING	EASTING	NORTHING	EASTING
A	1,000.00'	5°05'47.68"	88.95'	44.51'	2,120,529.51	6,288,763.16	2,120,616.01	6,288,742.53
B	-	-	876.60'	-	2,120,616.01	6,288,742.53	2,121,476.89	6,288,577.32
C	-	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-	-
E	-	-	-	-	-	-	-	-
F	-	-	-	-	-	-	-	-

CHANNEL BOTTOM APPROX. OFFSET (LOOKING UPSTREAM)		
STATION	LEFT	RIGHT
39+50	105.00'	20.00'
42+00	126.00'	40.00'



A1 PLAN: SEDIMENT REMOVAL - SITE 2

SCALE: 1"=50'

0 50' 100'

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SITE PLAN - 2

SHEET ID

C-102

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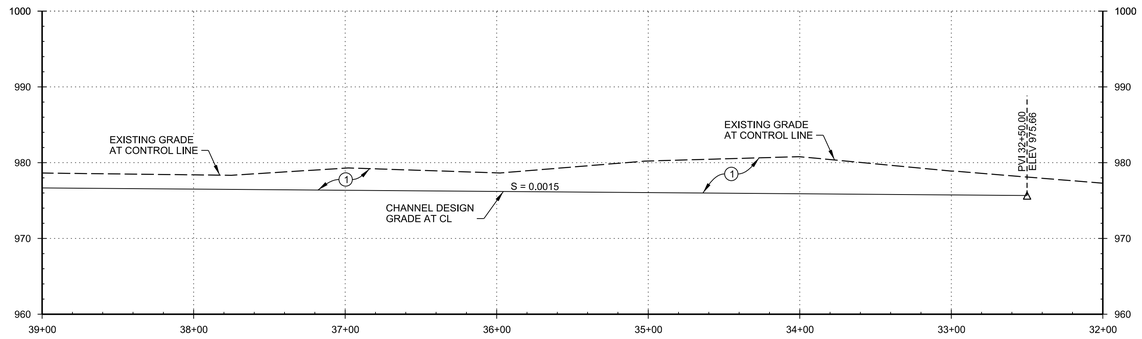
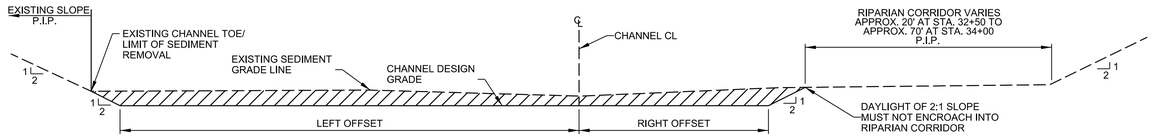


F1 PROFILE: SEDIMENT REMOVAL - SITE 3

SCALE: H:1"=50' V=1"=10'



E1 CROSS SECTION - STA. 32+50 TO STA. 34+00

SCALE: NTS

0 50' 100'

0 10' 20'

CONSTRUCTION NOTES

1. EXISTING SEDIMENT TO BE REMOVED.
2. APPROX. LIMITS OF RIPARIAN CORRIDOR. PROTECT IN PLACE.
3. EXISTING 15" THK. RIPRAP WITH 5' TOEDOWN. PROTECT IN PLACE.

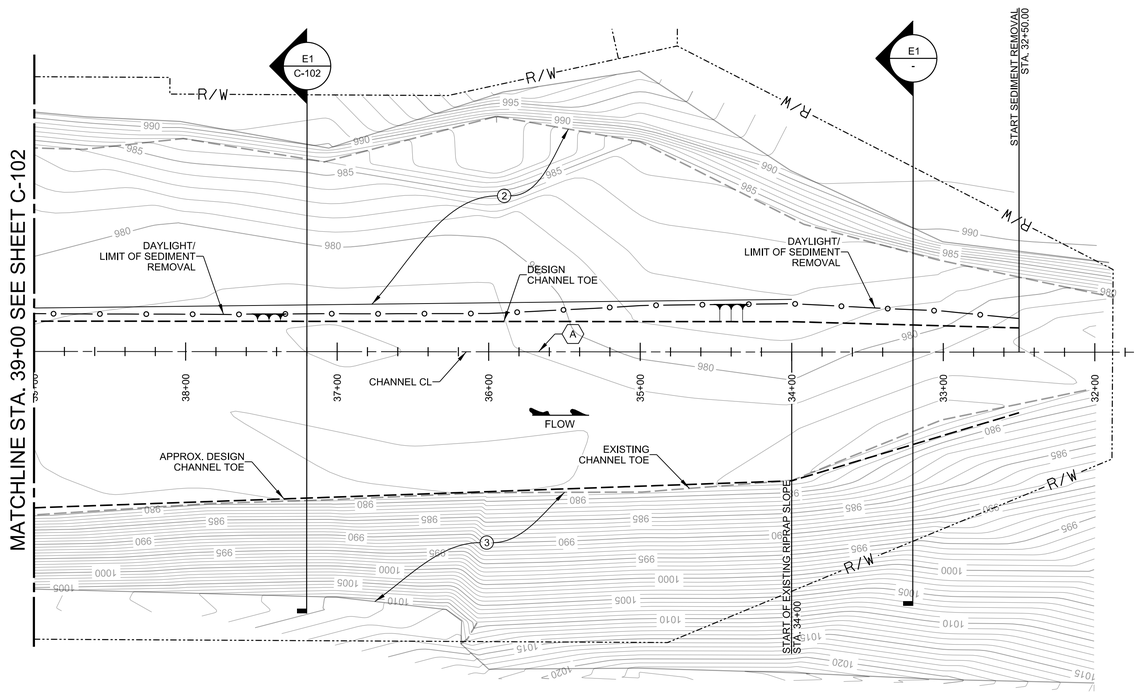
LEGEND:

SEDIMENT TO BE REMOVED

NOTES:

1. RIGHT-OF-WAY LINE IS SHOWN FOR INFORMATION ONLY. ACCURACY IS NOT GUARANTEED.
2. SEDIMENT REMOVED MUST BE HAULED AND STOCKPILED. FOR STOCKPILE LOCATION SEE DETAIL E1 ON SHEET G-003.
3. ORGANIC MATERIAL REMOVED MUST BE HAULED TO A DUMPSITE AS DIRECTED BY USACE'S FIELD PERSONNEL.
4. INSTALL BMP'S AROUND STOCKPILE AREA.
5. ANY QUESTIONS ABOUT LIMITS OF EXCAVATION MUST BE DISCUSSED WITH THE COR.

CURVE DATA					B.C.		E.C.	
◇	R=	Δ=	L=	T=	NORTHING	EASTING	NORTHING	EASTING
A	-	-	837.03'	-	2,120,529.51	6,288,763.16	2,119,724.75	6,288,993.31
B	-	-	-	-	-	-	-	-
C	-	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-	-
E	-	-	-	-	-	-	-	-
F	-	-	-	-	-	-	-	-



CHANNEL BOTTOM APPROX. OFFSET (LOOKING UPSTREAM)		
STATION	LEFT	RIGHT
32+50	40.00'	16.00'
34+00	85.00'	20.00'

PLAN NORTH

TRUE N

A1 PLAN: SEDIMENT REMOVAL - SITE 3

SCALE: 1"=50'

0 50' 100'

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CONTRACT NO.:
FILE NAME

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SUBMITTED BY:
SIZE: ANSI D
CAD FILE 104784_C-103.dgn

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SITE PLAN - 3

SHEET ID

C-103

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