

APPENDIX C

Coachella Valley Stormwater Channel
Improvement Project, Phase I

Biological Resources Assessment &
Coachella Valley Multiple Species Habitat
Conservation Plan Compliance Report

City of Coachella and
Unincorporated Community of Thermal

Submitted to:

Terra Nova Planning & Research, Inc.
42635 Melanie Place, Suite 101
Palm Desert, CA 92211

Submitted by:

Amec Foster Wheeler, Environment & Infrastructure, Inc.
3120 Chicago Avenue, Suite 110
Riverside, CA 92507

3 February 2016



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Unincorporated Community of Thermal
Riverside County, California

Submitted to:

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3 February 2016

EXECUTIVE SUMMARY

For the purposes of this assessment, analysis of the proposed Coachella Valley Stormwater Channel (CVSC) Improvement Project, Phase I (project) could include the following:

- Extension of existing and construction of new concrete-lined channel/levee banks, a fully concrete-lined channel from Airport Boulevard to the Thermal Drop Structure near Avenue 58, and construction of a bypass channel or combinations thereto.
- Modification of the existing channel cross-section and Thermal Drop Structure.
- Improvement of the levees (construct above-grade concrete barriers) upstream of Airport Boulevard to the vicinity of Avenue 54.
- Future modification to the northernmost railroad bridge may be required.

The project is located both within the city limits of Coachella and unincorporated lands in the community of Thermal, Riverside County, California. The approximately 262 acre Project Planning Area/Area of Potential Effect (PPA/APE) is approximately two miles long in and adjacent to the CVSC. The PPE/APE extends from immediately north of Avenue 54 downstream (south) to north of Avenue 58 in Thermal. The existing CVSC is bounded by earthen flood control levees, although concrete wall reinforcement is present in the northern PPA/APE and near bridges. Land outside the CVSC, but in and surrounding the PPA/APE is a patchwork of commercial buildings and single-family rural residential dwellings, agriculture, and natural lands (undeveloped, some of which have been previously disturbed).

Information contained herein is intended to be used for compliance with state and federal regulations intended to protect waters and special status species and their habitats. This includes the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), the boundaries of which the PPA/APE is within.

In preparation for the field visits, a literature review was conducted to identify special-status biological resources known from the vicinity of the PPA/APE. The literature review included the following documents:

- California Natural Diversity Data Base (CNDDB) RareFind 5
- California Native Plant Society's Inventory of Rare, Threatened, and Endangered Plants of California
- The CVMSHCP documents
- United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey
- United States Geological Survey 7.5' *Indio, Mecca, Valerie, and Thermal Canyon, Calif.* quadrangles

Two field assessment visits were conducted, including a focused burrow survey for burrowing owls. PPA/APE suitable habitat was assessed based on the presence or absence of habitat components (e.g., soils, vegetation and topography) characteristic of the potentially occurring special-status biological resources determined by the literature review. Pedestrian transects were walked over the entire PPA/APE where accessible. All flora and fauna observed or otherwise detected (e.g., dead remains [primarily plants], vocalizations, presence of scat, tracks,

and/or bones) during the course of this assessment were recorded in field notes and included in Appendices 1 and 2. Topography, soils, and vegetation (natural communities) were mapped.

The literature review and biological resources assessment resulted in the identification of 50 special-status species which were observed in the PPA/APE, had CNDDDB records within an approximate five mile radius of the PPA/APE, and/or which had habitat, including CVMSHCP modeled habitat, in the PPA/APE. These included 14 plants, two invertebrates, two fishes, one amphibian, two reptiles, 22 birds, and seven mammals.

Of the 50 sensitive elements identified by the literature review to occur in the PPA/APE vicinity (see Tables 2-8 above), 18 were determined to be absent from the PPA/APE, including all of the plant species, the cheeseweed owlfly, the razorback sucker, Coachella Valley fringe-toed lizard, and the Colorado Valley woodrat. Since they are not expected to occur within the PPA/APE or be impacted, those 18 species will not be discussed further.

Of the remaining 32 species, seven are fully covered and conserved by the CVMSHCP: desert pupfish, flat-tailed horned lizard, southwestern willow flycatcher, least Bell's vireo, western yellow bat, Palm Springs pocket mouse, and Coachella Valley (Palm Springs) round-tailed ground squirrel. Since potential impacts to these seven species will be mitigated through project participation in the CVMSHCP as a covered activity, they will not be discussed further.

The monarch, a butterfly, is not covered by the CVMSHCP. It is ranked S2S3 by the state (imperiled - vulnerable), but has no other state or federal status. The species is considered special-status primarily because of its wintering roosts along the coast. A single butterfly was seen foraging in the PPA/APE. We are not recommending any further action in regard to this species, as the PPA/APE is not coastal and does not contain any known monarch roost sites.

The Couch's spadefoot is not covered by the CVMSHCP. It is considered a species of special concern by the California Department of Fish and Wildlife (CDFW) and is ranked S2 by the state (imperiled), but has no other state or federal status. It may occur in temporary rain pools, and flooded date palm orchards may also provide breeding habitat and refugia. There is only one known local record, five miles to the southeast, and limited potential habitat in the PPA/APE. Amec Foster Wheeler recommends that substantial temporary pools and orchards be avoided or surveyed for this species and its' larvae prior to disturbance to avoid impacts to breeding spadefoots. This does not include the channel itself.

Three additional species of bats were found to have records in the PPA/APE vicinity: Townsend's big-eared bat, spotted bat, and western mastiff bat. One of these, the spotted bat, only has foraging potential in the PPA/APE. Although implementation of the proposed project may represent an incremental loss of potential spotted bat foraging habitat, it is not expected to have a significant impact on the species or to result in its take. We are not recommending any further action on behalf of the spotted bat.

The Townsend's big-eared bat could roost on the walls and ceilings of bridges, culverts, and other structures in the PPA/APE, but is most often associated with caves or mines. Human disturbance is frequent in the PPA/APE, and may be a limiting factor for this species. The western mastiff bat prefers roosts in high places such as cliff crevices, but could use trees or structures in the PPA/APE. Both species may forage in the PPA/APE.

Take of these or other roosting bat species may be considered significant. Although no bats were seen during the biological resource assessment, suitable roosting habitat was seen.

Focused surveys may be required to ensure that bats are not present so that they are not harmed or disturbed by construction activities.

The California black rail and Yuma Ridgway's (clapper) rail are covered species under the CVMSHCP, but because they are both California Fully Protected species, no take is allowed. Also, because the California black rail is not federally listed, take of that species is also prohibited under the Migratory Bird Treaty Act (MBTA). For both species, the CVMSHCP states: "Surveys will be required in potential Habitat for this rail before any activity that would impact the Habitat. If rails are found, the Habitat must be avoided or measures approved by The Wildlife Agencies taken to ensure that no take of an individual occurs." Potential habitat is present in the CVSC and these species have been recorded in the area. Surveys for these species are conducted between March 15th and May 31st. If either species was found to be present, consultation with the wildlife agencies would be required prior to any impacts to habitat.

The Burrowing Owl (BUOW) is a covered species under the CVMSHCP, but the federal permit for the CVMSHCP does not allow take of this species under the MBTA. Project hydrologists encountered a BUOW at its burrow several months ago, and Amec Foster Wheeler biologists found BUOW sign at that and another nearby burrow during the burrow survey. Numerous burrows or burrow-like structures suitable for occupation by BUOWs, but without any sign of BUOW usage, were observed in or immediately adjacent to the PPA/APE.

Actions to avoid take of the burrowing owl will need to be performed prior to project activities. The "CDFW recommends two take avoidance surveys. The first should occur between 14 and 30 days prior to ground disturbance and the second within 24 hours of ground disturbance."

Several of the special-status bird species seen in the PPA/APE are not covered by the CVMSHCP, but do not have nesting habitat and/or breeding range within the PPA/APE. These include:

- The great egret, great blue heron, and snowy egret, which are unlisted species which nest colonially. Their nesting colonies are considered sensitive, but they are all ranked S4 (apparently secure). Although these species occur in the PPA/APE for foraging, there are no known rookery sites in or near the PPA/APE or sufficiently wide, undisturbed habitat for the establishment of such.
- The unlisted sharp-shinned hawk which is a migrant and winter visitor only. It is considered to be a watch list species by the state. It breeds in montane areas. Although this species occurs in the PPA/APE for foraging, no nesting habitat is present.
- The unlisted California gull which is a visitor only. Their nesting colonies are considered sensitive, but the species is ranked S4 (apparently secure). It is a colonial breeder on islands in lakes well to the north of our region. Although this species occurs in the PPA/APE for foraging, no nesting habitat is present.
- The unlisted prairie falcon which is considered to be of federal conservation concern and is designated a species of special concern by the state. It nests on cliffs. No nesting habitat is present on or adjacent to the PPA/APE. This species may occasionally forage over the PPA/APE while breeding or wintering.

Although implementation of the proposed project will represent an incremental loss of foraging habitat, it is not expected to have a significant impact on these six non-nesting species or to result in their take. We are not recommending any further surveys or mitigation for them.

The following bird species are covered species under the CVMSHCP, but like the BUOW, the federal permit for the CVMSHCP does not allow their take under the MBTA: crissal thrasher, Le Conte's thrasher, yellow warbler, yellow-breasted chat, and summer tanager. Nesting habitat for all of these species has been periodically available in the PPA/APE, and was present at the time of Amec Foster Wheeler's field visits. Recent and periodic future channel clearing has, and in the future will, remove all or portions of this vegetation as a part of CVWD's channel maintenance. Nesting bird surveys for compliance with the MBTA will prevent impacts to these species. This will be discussed further below.

These additional special-status bird species detected or of potential occurrence in the PPA/APE are not included in the CVMSHCP: Cooper's hawk, Costa's hummingbird, vermilion flycatcher, loggerhead shrike, black-tailed gnatcatcher, and Abert's towhee. They all may nest in the PPA/APE. Regardless of their status, all are protected from take by the MBTA. Nesting bird surveys for compliance with the MBTA will prevent impacts to these species. This will be discussed further below.

Excluded from coverage under the CVMSHCP are a variety of common bird species that are protected by the MBTA. This includes virtually all native migratory and resident bird species, including many of the birds already known to occur in the vicinity (exceptions discussed above). Avoidance of impacts to these nesting migratory and resident birds is a requirement of the federal permit issued for the CVMSHCP. In order to avoid impacting nesting birds, either avoidance of project-related disturbance during the nesting season (generally from approximately January 15 through July 31 for the Coachella Valley) or nesting bird surveys conducted by a qualified ornithologist or biologist immediately prior to PPA/APE disturbance during the nesting season would be required. If nesting birds are present, no work would be permitted near the nest until young have fledged. While there is no established protocol for nest avoidance, when consulted, the CDFW generally recommends avoidance buffers of about 500 feet for birds-of-prey and listed species and 100 – 300 feet for other bird species.

Jurisdictional waters and/or wetlands appear to be present. An Amec Foster Wheeler waters specialist will review the ICF International (2014) Jurisdictional Delineation's methodology and confirm the extent of jurisdictional waters and wetlands within the subject reach of the Phase I project. Our findings will be presented in a separate document.

No CVMSHCP wildlife corridors or biological linkages are mapped or known in or adjacent to the PPA/APE. Four of the nearest CVMSHCP conservation areas are the Mecca Hills/Orocopia Mountains Conservation Area, Desert Tortoise & Linkage Conservation Area, East Indio Hills Conservation Area, and Santa Rosa and San Jacinto Mountains Conservation Area. With no planned corridors or linkages, and no adjacency to the PPA/APE (all are a minimum of 2.9 miles away), these conservation areas will not suffer edge effects from this project and the proposed project will not have an effect on the functions or assembly of the CVMSHCP conservation area in their regard.

The Coachella Valley Stormwater Channel & Delta Conservation Area, however, which is 4.3 miles downstream from the proposed project, could suffer impacts as a result of project construction. To prevent degradation of downstream water quality, Best Management Practices

(BMPs) recommended by or acceptable to the CVMSHCP and state and federal waters agencies will need to be followed.

There is an Environmentally Sensitive Habitat Restoration Mitigation area (ESHRM) in a basin in the northern PPA/APE. The ESHRM is east of the CVSC, and extends north beyond the PPA/APE. The ESHRM's relationship to the CVMSHCP, if any, is unknown. Caltrans appears to be the owner and the ESHRM may have been a mitigation project associated with construction of the 86 Expressway. The only signage for the ESHRM found by Amec Foster Wheeler is along the expressway, and these simply state: "Keep Out, Sensitive Habitat." We suggest that the ESHRM be avoided.

Implementation of the proposed project would result in the permanent and/or temporary disturbance of up to 262 acres, including the biological resources occurring or potentially occurring in the PPA/APE. Most of the project impacts will be mitigated through CVWD's participation in the CVMSHCP.

With the implementation of the recommendations above, impacts to special-status species potentially occurring in the PPA/APE and their habitats would be expected to be mitigated to a less than significant level. Recommendations include surveys as needed for Couch's spadefoot, bats, rails, BUOW, and MBTA protected nesting birds, compliance with the recommendations of the forthcoming JD, avoidance of the Environmentally Sensitive Habitat Restoration Mitigation area, and the use of BMPs to prevent quality degradation of water flowing downstream to the Coachella Valley Stormwater Channel & Delta Conservation Area.

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1.0 INTRODUCTION

At the request of Terra Nova Planning and Research, Inc., this biological resources assessment & Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) compliance report was prepared by Amec Foster Wheeler, Environment & Infrastructure, Inc. (Amec Foster Wheeler) for the Coachella Valley Stormwater Channel (CVSC) Improvement Project, Phase I (project). This flood control project is located both within the city limits of Coachella and on unincorporated lands in the community of Thermal, Riverside County, California. The approximately 262 acre Project Planning Area/Area of Potential Effect (PPA/APE) is approximately two miles long in and adjacent to the CVSC extending from immediately north of Avenue 54 downstream (south) to north of Avenue 58 in Thermal. (see Figure 1). It is located within Sections 10, 15, & 22 of Township 6 South, Range 8 East of the United States Geological Survey (USGS) 7.5' *Indio, Calif.* quadrangle (see Figure 2). The existing CVSC is bounded by earthen flood control levees, although concrete wall reinforcement is present in the northern PPA/APE (see Appendix 3, Photos 41-43) and near the Airport Boulevard, Highway 111, and two railroad bridges. Land outside the CVSC, but in and surrounding the PPA/APE is a patchwork of commercial buildings and single-family rural residential dwellings, agriculture, and natural lands (undeveloped, some of which have been previously disturbed).

Phase I may include the following:

- Extension of existing and construction of new concrete-lined channel/levee banks, a fully concrete-lined channel from Airport Boulevard to the Thermal Drop Structure near Avenue 58, and construction of a bypass channel or combinations thereto.
- Modification of the existing channel cross-section and Thermal Drop Structure.
- Improvement of the levees (construct above-grade concrete barriers) upstream of Airport Boulevard to the vicinity of Avenue 54.
- Future modification to the northernmost railroad bridge may be required.

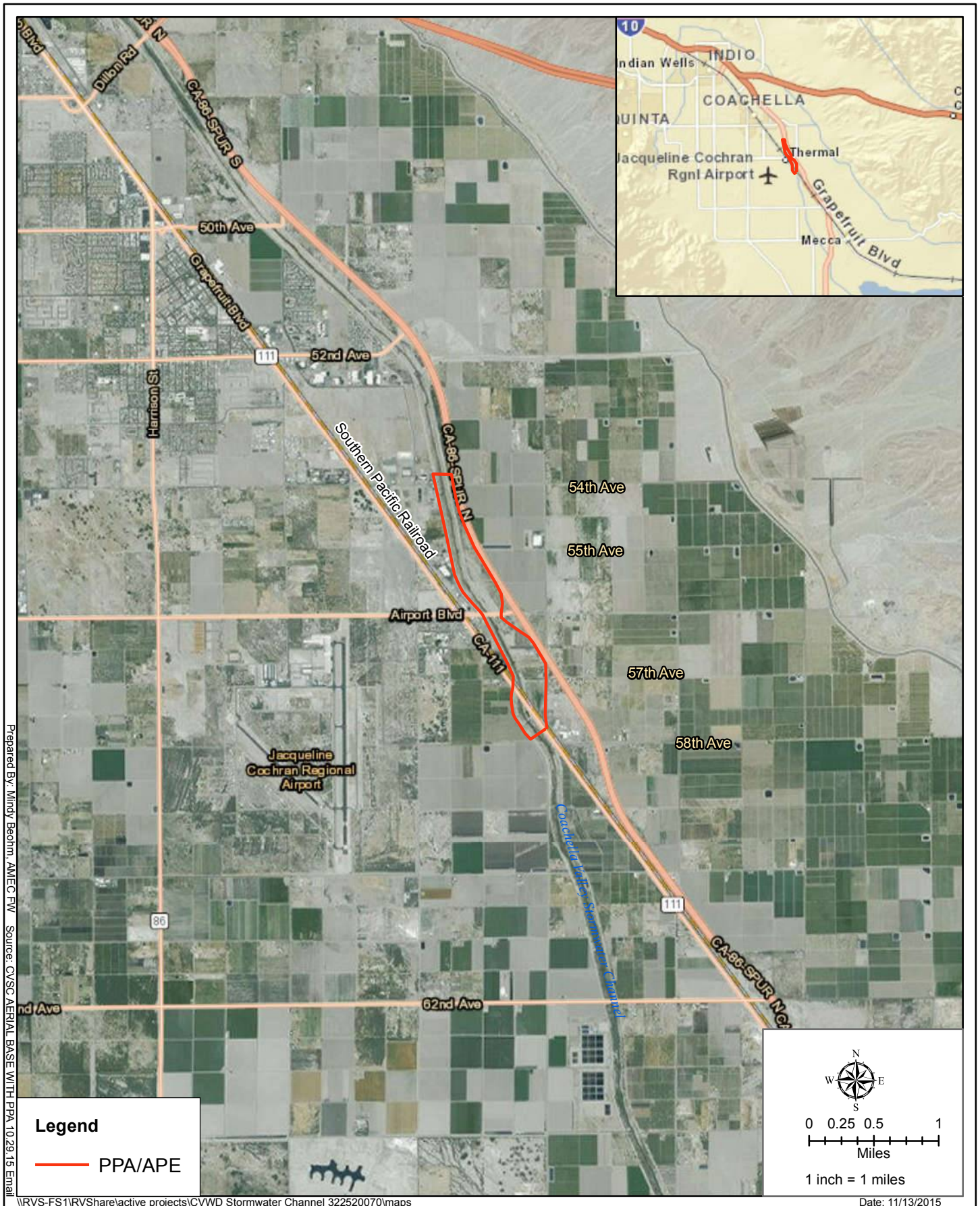
Information contained herein is intended to be used for compliance with state and federal regulations intended to protect waters and special status species and their habitats. This includes the CVMSHCP, the boundaries of which the PPA/APE is within.

2.0 REGULATORY FRAMEWORK

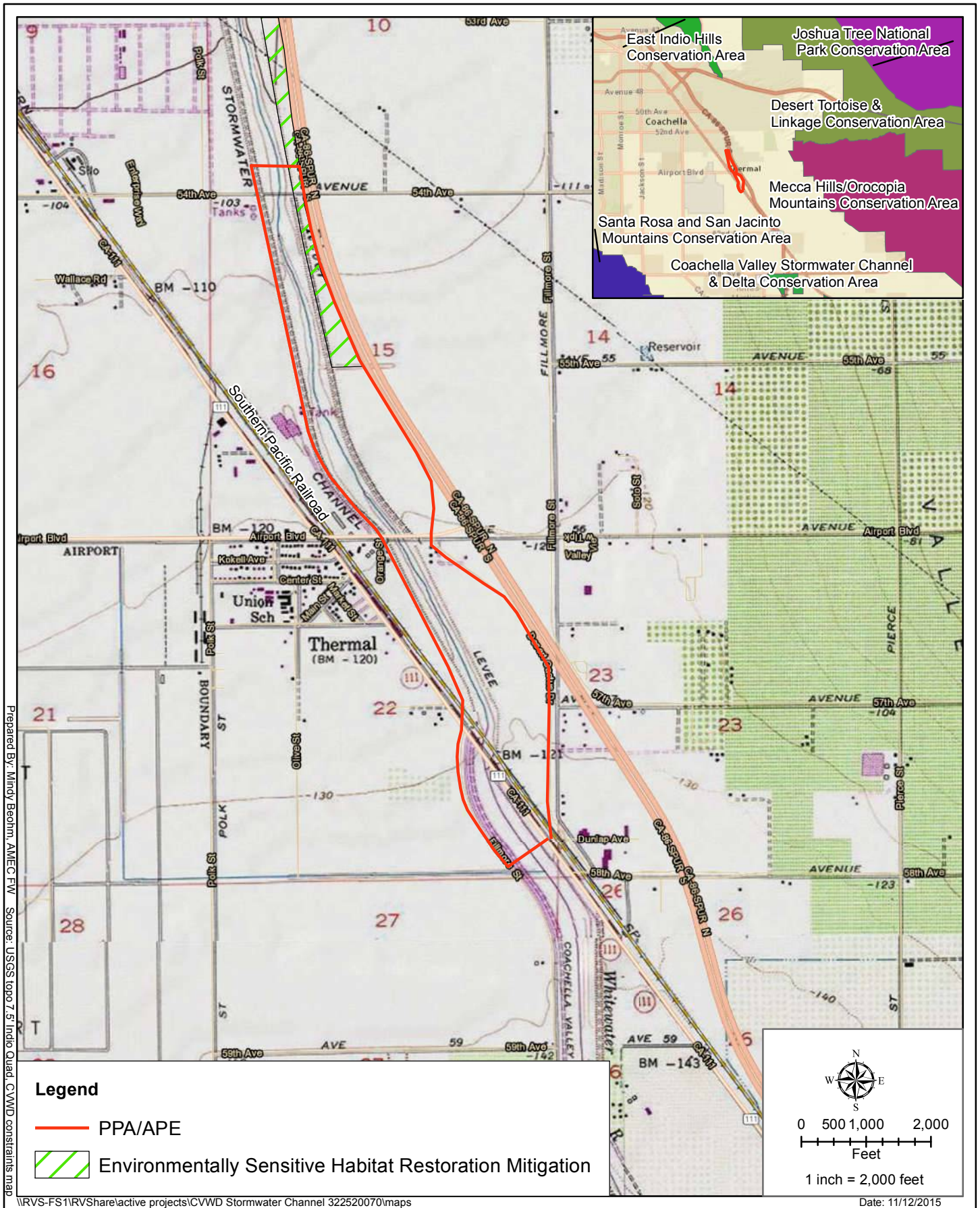
Several relevant biological and environmental regulations have been included in this section, but the CVMSHCP is the primary regulatory entity for this project.

2.1 Coachella Valley Multiple Species Habitat Conservation Plan

Finalized in October 2008, the CVMSHCP is a comprehensive regional plan that addresses the conservation needs of 27 species of native flora and fauna and 27 natural vegetation communities occurring throughout the Coachella Valley region of western Riverside County, California (Coachella Valley Association of Governments [CVAG] 2008). Permits for the CVMSHCP were issued by the California Department of Fish and Game (CDFG) [now the California Department of Fish and Wildlife (CDFW)] on September 9, 2008 and the United States Fish and Wildlife Service (USFWS) on October 1, 2008 (TE104604-0). The CVMSHCP



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Site Topography & Relationship to Conservation Areas
 Coachella Valley Stormwater Channel Improvement Project - Phase 1

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serves two primary purposes: Balancing environmental protection and economic development objectives in the CVMSHCP area, and simplifying compliance with endangered species related laws. The CVMSHCP accomplishes this by conserving unfragmented habitat to permanently protect and secure viable populations of the covered species.

The covered species include plants and animals that are either currently listed as threatened or endangered, are proposed for listing, or are believed by an USFWS and CDFW appointed Scientific Advisory Committee, to have a high probability of being proposed for listing in the future if not provided protection by the CVMSHCP. The goal of the CVMSHCP is to meet the requirements of the state and federal endangered species acts, while at the same time allowing for the economic growth (land development) within the CVMSHCP area without significant delay or hidden costs. Under the CVMSHCP, mitigation is required from all new development projects occurring in the CVMSHCP area for the purpose of assembling a preserve system for the covered species and natural vegetation communities within areas identified as having high conservation value.

Federal approval for the CVMSHCP was under the Endangered Species Act (ESA or Act). The USFWS and the National Marine Fisheries Service are the designated federal agencies accountable for administering the ESA. ESA defines species as “endangered” or “threatened” and provides regulatory protection at the federal level. Section 10(a) of the ESA authorizes the issuance of incidental take permits and establishes standards for the content of habitat conservation plans, such as the CVMSHCP.

State approval for the CVMSHCP was under the Natural Community Conservation Planning (NCCP) Program, managed by the CDFW. NCCPs are intended to conserve multiple species and their associated habitats, while also providing for compatible use of private lands. Through local planning, the NCCP planning process is designed to provide protection for wildlife and natural habitats before the environment becomes so fragmented or degraded by development that species listing are required under the California Endangered Species Act (CESA). Instead of conserving small, often isolated “islands” of habitat for just one listed species, agencies, local jurisdictions, and/or other interested parties have an opportunity through the NCCP to work cooperatively to develop plans that consider broad areas of land for conservation that would provide habitat for many species. Partners enroll in the programs and, by mutual consent, areas considered to have high conservation priorities or values are set aside and protected from development. Partners may also agree to study, monitor, and develop management plans for these high value “reserve” areas. The NCCP provides an avenue for fostering economic growth by allowing approved development in areas with lower conservation value. The Coachella Valley NCCP is included as a part of the CVMSHCP.

2.2 Protection of Migratory Birds

2.2.1 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) signed by the U.S., Great Britain, Mexico, Japan, and the countries of the former Soviet Union make it unlawful to pursue, capture, kill, and/or possess, or attempt to engage in any such conduct to any migratory bird, nest, egg or parts thereof listed in the MBTA document (USFWS 2015). The Secretary of the Interior can issue permits for

incidental take of migratory bird species. As with the ESA, the MBTA also allows the Secretary of the Interior to grant permits for the incidental take of these protected migratory bird species.

The USFWS permit for the CVMSHCP allows only for the take of covered bird species *which are also listed under the ESA*, as amended and which are also listed under the MBTA. For other birds protected by the MBTA and not listed under the ESA *no take is authorized* (including killing and wounding of any such birds, or take of eggs and active nests). Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct.”

2.2.2 Section 3503, 3505.5, & 3513 of the State Fish and Game Code

Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3505.5 makes it unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey, i.e.: owls, hawks, eagles, etc.) or to take, possess, or destroy the nest or eggs of any bird-of-prey. Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA.

2.3 Waters of the United States and the State of California

Impacts to federal and state jurisdictional waters are not covered by the CVMSHCP.

2.3.1 United States Army Corps of Engineers (USACE)

The USACE regulates the discharge of dredged or fill material in waters of the United States (WUS) pursuant to Section 404 of the Clean Water Act (CWA).

2.3.1.1 Waters of the U.S.

CWA regulations (33 CFR 328.3(a)) define WUS as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are, or could be used by, interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used, or could be used, for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as WUS under the definition;
5. Tributaries of WUS;
6. The territorial seas;
7. Wetlands adjacent to WUS (other than waters that are themselves wetlands).

The USACE delineates non-wetland waters in the Arid West Region by identifying the ordinary high water mark (OHWM) in ephemeral and intermittent channels (USACE, 2008a). The OHWM is defined in 33 CFR 328.3(e) as:

“...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

Identification of OHWM involves assessments of stream geomorphology and vegetation response to the dominant stream discharge. Determining whether any non-wetland water is a jurisdictional WUS involves further assessment in accordance with the regulations, case law, and clarifying guidance as discussed below.

2.3.1.2 Wetlands and Other Special Aquatic Sites

Wetlands are defined at 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

Special aquatic sites are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes. They are defined in 40 CFR 230 Subpart E.

2.3.2 Regional Water Quality Control Board (RWQCB)

The RWQCB regulates activities pursuant to Section 401(a)(1) of the CWA. Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Through the Porter Cologne Water Quality Control Act, the RWQCB asserts jurisdiction over Waters of the State of California (WSC) which is generally the same as WUS, but may also include isolated waterbodies. The Porter Cologne Act defines WSC as “surface water or ground water, including saline waters, within the boundaries of the state”.

2.3.3 California Department of Fish and Wildlife

The CDFW regulates water resources under Section 1600-1616 of the California Fish and Game Code. Section 1602 states:

“An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake (CDFW 2015a).”

2.4 California Environmental Quality Act (CEQA)

The basic goal of CEQA is to maintain a high-quality environment now and in the future and the specific goals are for California's public agencies to:

- 1) Identify the significant environmental effects of their actions; and, either
- 2) Avoid those significant environmental effects, where feasible; or
- 3) Mitigate those significant environmental effects, where feasible.

CEQA applies to "projects" proposed to be undertaken or requiring approval by State and local government agencies. Projects are activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and the approval of tentative subdivision maps. Where a project requires approvals from more than one public agency, CEQA requires one of these public agencies to serve as the "lead agency."

A "lead agency" must complete the environmental review process required by CEQA. The most basic steps of the environmental review process are:

- 1) Determine if the activity is a "project" subject to CEQA;
- 2) Determine if the "project" is exempt from CEQA;
- 3) Perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant". Based on its findings of "significance", the lead agency prepares one of the following environmental review documents:
 - a) Negative Declaration if it finds no "significant" impacts;
 - b) Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts;
 - c) Environmental Impact Report (EIR) if it finds "significant" impacts.

While there is no ironclad definition of "significance", Article 5 of the CEQA Guidelines provides criteria to lead agencies in determining whether a project may have significant effects (California Natural Resources Agency 2014).

The purpose of an EIR is to provide State and local agencies and the general public with detailed information on the potentially significant environmental effects which a proposed project is likely to have and to list ways in which the significant environmental effects may be minimized and indicate alternatives to the project.

2.5 The Native Plant Protection Act (NPPA)

The state NPPA includes measures to preserve, protect, and enhance rare and endangered native plant species. NPPA provides limitations on take as follows: "no person will import into this state, or take, possess, or sell within this state" any rare or endangered native plants, except in accordance with the provisions outlined in CESA. If a landowner is notified by CDFW, pursuant to section 1903.5 that a rare or endangered plant is growing on their property, the landowner shall notify CDFW at least 10 days prior to the changing of land uses to allow CDFW to salvage the plants.

3.0 METHODS

3.1 Literature Review

In preparation for the field visits, a literature search was conducted to identify special-status biological resources known from the vicinity of the PPA/APE. In the context of this report, and for the purpose of this assessment, vicinity is defined as areas within a 5-mile radius of the PPA/APE.

The literature review included the following documents:

- California Natural Diversity Data Base (CNDDB) RareFind 5 (CDFW 2015b)
- California Native Plant Society's (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2015)
- CVMShCP (CVAG 2008)
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015a. Web Soil Survey
- USGS 7.5' *Indio, Mecca, Valerie, and Thermal Canyon, Calif.* quadrangles (USGS 2015)

This document utilized the following standard references. For plant communities, Holland (1986) and Sawyer et al (2009); for flora, Jepson eFlora (2015) and the USDA NRCS PLANTS Database (2015b); for amphibians, reptiles, and mammals, CDFW (2014a); and for birds, American Ornithologists Union (2015).

3.2 Field Assessment

Field assessment visits were conducted on 25 September 2015 by Amec Foster Wheeler Senior Biologist John F. Green and on 10 November 2015 by Green and Amec Foster Wheeler Senior Biologist Michael Wilcox. The November visit also included a focused burrow survey for burrowing owls (*Athene cunicularia*) according to protocol (CDFG 2012). PPA/APE suitable habitat was assessed based on the presence or absence of habitat components (e.g., soils, vegetation and topography) characteristic of the potentially occurring special-status biological resources determined by the literature review. Pedestrian transects were walked over the entire PPA/APE where accessible. All flora and fauna observed or otherwise detected (e.g., dead remains [primarily plants], vocalizations, presence of scat, tracks, and/or bones) during the course of this assessment were recorded in field notes and are included in Appendices 1 and 2. Plant species of uncertain identity were collected and identified by Andrew C. Sanders, Herbarium Collections Manager, University of California, Riverside. General weather and site conditions were also recorded at the beginning and end of each visit (see Table 1). Temperatures and wind speeds were recorded with a handheld Kestrel anemometer. Percent cloud cover was estimated. Representative PPA/APE photos were taken (see Appendix 3).

Table 1. Field Assessment Time and Weather

Date	Time	Temperature (degrees Fahrenheit)	Wind (miles per hour)	Sky (% cover)
25 September 2015	0615-0930	78-96	1-6	0-1
10 November 2015	0600-1325	58-77	2-8	30-10

4.0 RESULTS

4.1 Topography and Soils

The PPA/APE is relatively flat with the exception of the levees on each side of the existing CVSC. There is a slight elevation change from approximately -100 to -135 below mean sea level as the CVSC moves southerly downstream.

The Web Soil Survey (USDA, NRCS 2015a) shows the following soil types on the PPA/APE (see Figure 3):

- Coachella fine sand, wet, 0-2% slopes
- Fluvents
- Gilman fine sandy loam, wet, 0-2% slopes
- Indio fine sandy loam, wet
- Indio very fine sandy loam, wet

The Coachella series are well-drained, moderately rapidly permeable soils in lacustrine basins the sediments are from dominantly igneous rocks. Slopes are gently sloping to nearly level.

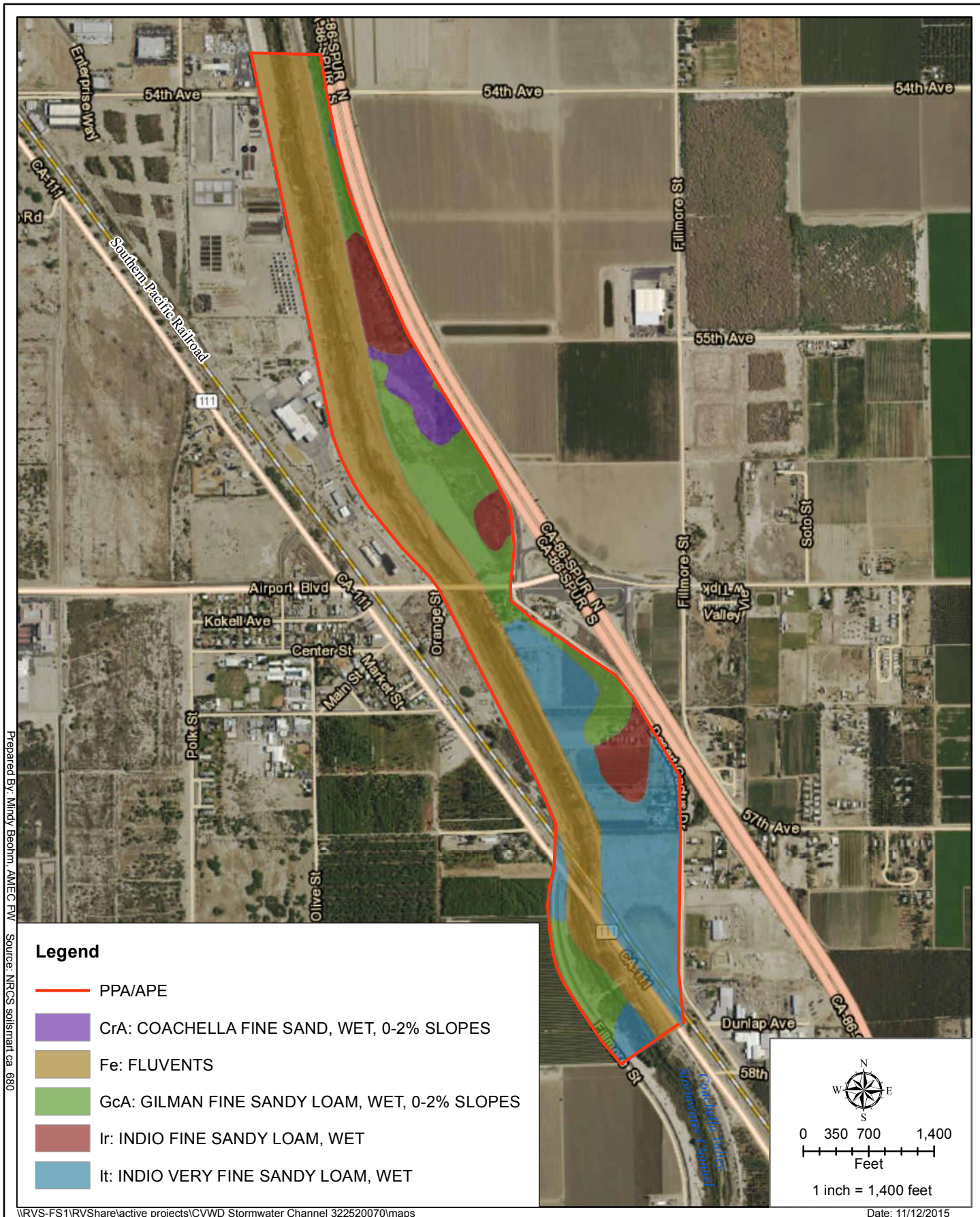
The Gilman series consists of very deep, well drained soils that formed in stratified stream alluvium. Gilman soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent.

The Indio series consists of very deep, well or moderately well drained soils formed in alluvium derived from mixed rock sources. Indio soils are on alluvial fans, lacustrine basins and flood plains and have slopes of 0 to 3 percent.

Fluvents are a type of Entisol. All Entisol soils have in common a mineral nature and a virtual absence of diagnostic horizons. Fluvents are mostly brownish to reddish soils that formed in recent water-deposited sediments, mainly on flood plains, fans, and deltas of rivers and small streams. Many Fluvents are frequently flooded unless they are protected by dams or levees. Stratification of alluvial sediments are derived from eroding soils or streambanks and contain an appreciable amount of organic carbon, which is mainly in the clay fraction. Fluvents can have any vegetation and any temperature regime.

4.2 Hydrology

The Whitewater River and its extensions described below is the primary drainage facility for the Coachella Valley. It emanates from the San Bernardino Mountains at the northwesterly edge of the Coachella Valley, flows southeast to La Quinta, northeast to Indio, and drains into the Salton Sea. Roughly from Windy Point to Indian Avenue, the Whitewater River channel broadens into a low-lying floodplain that measures more than a mile in width. As it nears Cathedral City, the Whitewater River narrows and becomes a partially improved channel known as the Whitewater River Stormwater Channel, which protects urban development from potential flooding. East of Washington Street in La Quinta, the Whitewater River becomes the man-made CVSC (Bureau of Land Management 2008). The CVSC is an engineered stormwater channel built in the mid-1940's to convey regional stormwater run-off from the Whitewater River Channel to the Salton Sea (Coachella Valley Water District 2006).



Prepared By: Mindy Boehm, AMEC FW Source: NRCOS soils.mart.ca.680

\\RVS-FS1\RVShare\active projects\CVWD Stormwater Channel 322520070\maps



Soils Map
Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE

3

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A Jurisdictional Delineation (JD) of waters and wetlands was conducted in 2012 along the approximately 50-mile full project alignment and revised in 2014 (ICF International 2014). The JD described the reach which includes the Phase I project portion of the CVSC as having “relatively permanent water flow due to discharge flows from three water reclamation plants and flows from subsurface drains” (see Photo 30 in Appendix 3 for example). Local stormwater also appears to be conveyed to the channel, for example see Appendix 3, Photo 42. It states that “a well-incised, prominent low-flow channel exists throughout the entire length of this portion” of the CVSC. Our initial observations were consistent with these findings, but an Amec Foster Wheeler hydrologist will be ground truthing the findings of the ICF International JD and will report the results in a separate report.

4.3 Vegetation

ICF International (2014) found that vegetation within the PPA/APE vicinity “consisted primarily of desert saltbush scrub, tamarisk scrub, arrow weed thickets, Sonoran cottonwood-willow riparian forest, and coastal and valley freshwater marsh.” This is generally consistent with our findings. Amec Foster Wheeler mapped the following communities, using “natural community” nomenclature from the CVMSHCP (see Figure 4). A list of the plant species detected during our field visits, including common and scientific names, is attached (Appendix 1). It should be noted that short-term biological studies of this nature are limited by the seasonality of plants and the timing of field visits.

4.3.1 Natural Communities Included in the CVMSHCP

Where within the CVSC, all of the following communities are occasionally reduced by channel maintenance. Such maintenance is generally intended to increase stormwater flow by reducing vegetative friction and was in progress during Amec Foster Wheeler’s November site visit. See Appendix 3, Photos 22-24, 29, 31, 41, and 43.

4.3.1.1 Arrow-weed Scrub

As described by the CVMSHCP, “this community is composed of moderate to dense streamside thickets dominated by arrow-weed (*Pluchea sericea*). Cattail (*Typha* [several species, spp]), tule (spp), rushes (spp), and salt grass (*Distichlis spicata*) may occur as scattered individuals, especially around the margins. Salt grass is a common ground cover. Arrow-weed scrub replaces willow and cottonwood riparian forests in areas where soils are more saline or alkaline.” Amec Foster Wheeler’s observations of the community were consistent with this description. No saline/alkaline soils are mapped in the PPA/APE, but saline encrustations were present. Good examples of Arrow-weed scrub can be seen in Appendix 3, Photos 34, 37-38, and 40.

4.3.1.2 Coastal and Valley Freshwater Marsh

As described by the CVMSHCP, “This community is dominated by perennial, emergent monocots, including cattail, bulrush, tules (spp), and rushes (spp), often forming completely closed canopies.” Amec Foster Wheeler’s observations of the community were consistent with this description, and included common reed (*Phragmites australis*). Good examples can be seen in Appendix 3, Photos 8, 11, 12, and 21-22.

4.3.1.3 Desert Saltbush Scrub

As described by the CVMSHCP, “The desert saltbush scrub community can include various species of saltbush in a nearly uniform stand of shrubs, forming a more complete cover than in creosote bush scrub. This community occupies areas where fine-textured, poorly drained soils with high salinity and/or alkalinity occur.” Amec Foster Wheeler’s observations of the community were consistent with this description, where the community was undisturbed. Big saltbush, also known as quailbush (*Atriplex lentiformis*) is the dominant species of the community in the PPA/APE. Good examples of this community, disturbed and undisturbed, can be seen in Appendix 3, Photos 32-34.

4.3.1.4 Mesquite Hummocks

As described by the CVMSHCP, “this community is composed of large clumps of low growing honey mesquite (*Prosopis glandulosa*) shrubs.” They are typically associated with high soil moisture, often associated with fault areas or springs. This community occurs in the PPA/APE in an “Environmentally Sensitive Habitat Restoration Mitigation” area (Tetra Tech 2014, see Figure 2), where it was probably planted. The mitigation area is in a basin. That, and proximity to the CVSC, provides the necessary soil moisture. Good examples can be seen in Appendix 3, Photos 38-40.

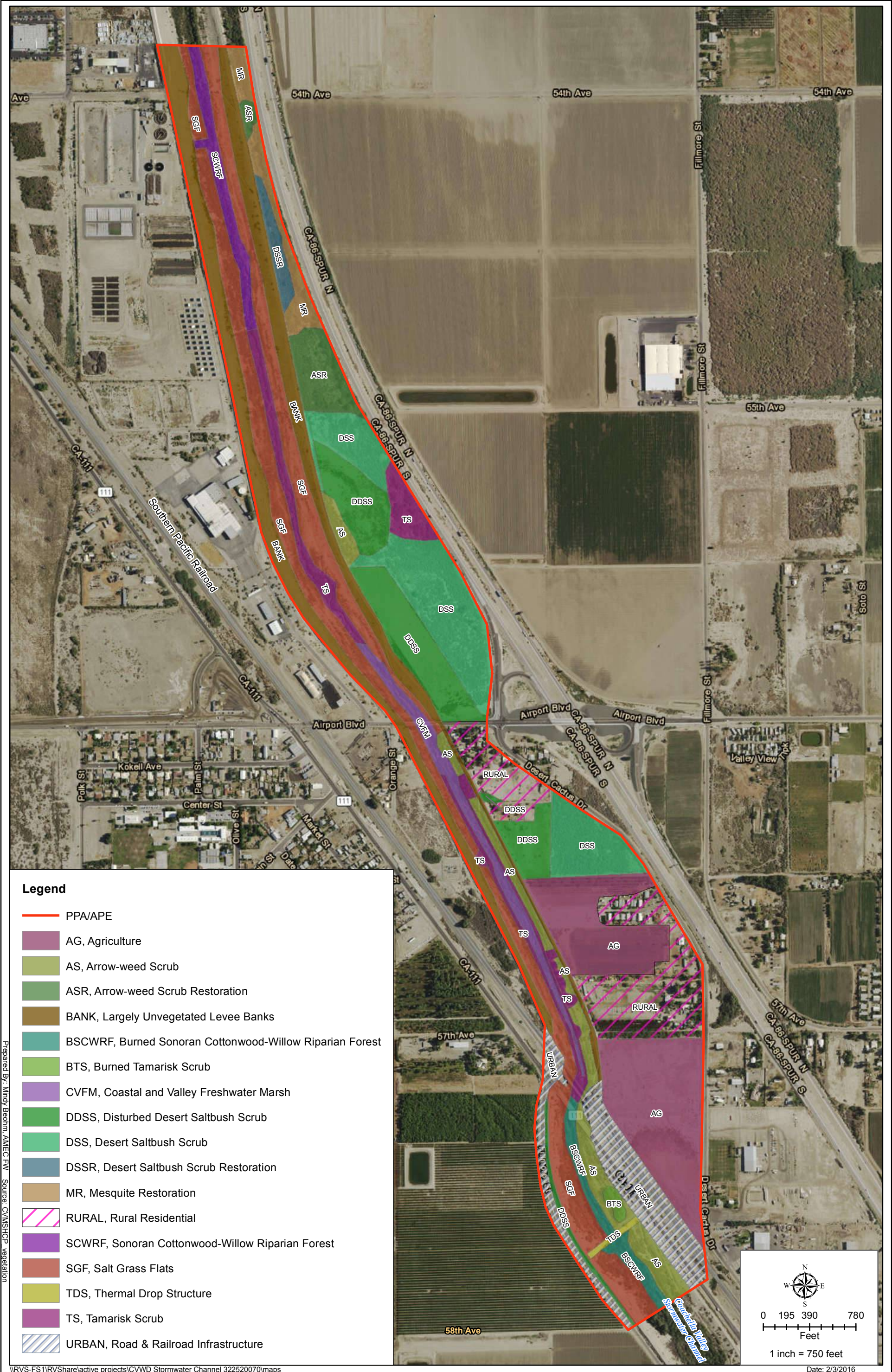
4.3.1.5 Sonoran Cottonwood-Willow Riparian Forest

As described by the CVMSHCP, “This community consists of a winter-deciduous, broad-leaved streamside forest to about 60 feet tall, dominated by Fremont cottonwood (*Populus fremontii*) with dense understories of willow (*Salix*) species. The site characteristics include deep, well-watered, loamy alluvial soils along the near-channel floodplains of perennial desert rivers.” Amec Foster Wheeler’s observations of the community were consistent with this description, although the community is often narrow, and the understory is not always dense, due to channel maintenance and fire. Good examples can be seen in Appendix 3, Photos 7 and 31. A portion of this community burned this year, see Photo 4.

4.3.2 Natural Communities Considered but not Included in the CVMSHCP

4.3.2.1 Tamarisk Scrub

This non-native community is mentioned, but not described in the CVMSHCP. Holland (1986) calls it “a weedy, virtual monoculture of any of several *Tamarix* species, usually supplanting native vegetation following major disturbance.” Amec Foster Wheeler observed tamarisk scrub intermittently throughout the PPA/APE. Regular maintenance disturbance favors this species, but it has not entirely supplanted natives in any part of the PPA/APE. A good example can be seen in Appendix 3, Photo 16. A portion of this community burned this year, see Photo 4.



Vegetation Communities Map
Coachella Valley Stormwater Channel Improvement Project - Phase 1

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4.3.3 Natural Communities not Included in the CVMSHCP

4.3.3.1 Salt Grass Flats

In the PPA/APE, this is a community that is created by channel maintenance, and which would revert to one or more of the communities above if trees and shrubs were not being actively removed for channel maintenance. Sawyer et al (2009) describe it as an alliance in which salt grass is dominant or co-dominant with other herbaceous plants and emergent shrubs, and this is consistent with Amec Foster Wheeler's observations. Good examples can be seen in Appendix 3, Photos 10-12 and 21-22. A good example of the channel activities that maintain this community can be seen in Photo 29.

4.3.4 Developed Areas

The CVMSHCP lists eight categories of developed areas. The following three are represented in the PPA/APE.

4.3.4.1 Agriculture

Active and fallow fields are present in the PPA/APE south of Airport Boulevard and east of the CVSC.

4.3.4.2 Rural

Rural development in the PPA/APE is represented by residential areas consisting primarily of single-family dwellings, ranchettes and trailer parks south of Airport Boulevard and east of the CVSC; the levees of the CVSC; and the Thermal Drop Structure and other structures in the CVSC. Examples can be seen in Appendix 3, Photos 2-4, 9-10, 16-18, and 42.

4.3.4.3 Urban

Urban development in the PPA/APE is represented by power, road, and railroad infrastructure, particularly bridges. Examples can be seen in Appendix 3, Photos 6-7, 19-21, and 40-43.

4.4 Wildlife

Vertebrate wildlife directly observed and/or detected otherwise (e.g., scat, bones, prints, feathers, burrows, etc.) during the survey included 55 species. This included one reptile, 48 birds, and at least six mammals. See Appendix 2 for a complete list of all vertebrate wildlife species detected.

It should be noted that short-term biological studies of this nature are limited by seasonality (for example migratory birds and "hibernating" mammals and reptiles), the fossorial and nocturnal habits of many mammals and reptiles, the difficulty of seeing fish, and the timing of field surveys. A complete inventory of the wildlife on the PPA/APE would require extensive year-round surveys for fish, amphibians, reptiles, birds, and mammals including, for example, seining for fish, pitfall traps for reptiles, and live trapping and/or the placement of tracking stations for the detection of nocturnal mammals.

Small, unidentified fish were seen, but not for long enough for identification. Common non-native fish which may occur in the CVSC include western mosquitofish (*Gambusia affinis*), sailfin molly (*Poecilia latipinna*), and Mozambique tilapia (*Oreochromis mossambicus*).

Although no amphibians were detected, Amec Foster Wheeler biologist Michael Wilcox has seen both the native Woodhouse's toad (*Anaxyrus woodhousii*) and the non-native American bullfrog (*Lithobates catesbeianus*) in the general PPA/APE area, and they are expected to occur.

Only one common reptile was observed in the PPA/APE, the side-blotched lizard (*Uta stansburiana*). Other common species such as, but not limited to, tiger (western) whiptail (*Aspidoscelis tigris*), desert iguana (*Dipsosaurus dorsalis*), desert horned lizard (*Phrynosoma platyrhinos*), gopher snake (*Pituophis catenifer*), and coachwhip (*Coluber flagellum*) may also occur.

The 48 species of birds observed in the PPA/APE included primarily native species, but four nonnative species were also observed, including the rock pigeon (*Columba livia*) and Eurasian collared-dove (*Streptopelia decaocto*). Common native species of desert and desert riparian habitats observed included, but were not limited to: the turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), greater roadrunner (*Geococcyx californianus*), American kestrel (*Falco sparverius*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), marsh wren (*Cistothorus palustris*), common yellowthroat (*Geothlypis trichas*), and red-winged blackbird (*Agelaius phoeniceus*). Several fall migrants/wintering species were seen, including the blue-gray gnatcatcher (*Polioptila caerulea*), ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Setophaga coronata*), and white-crowned sparrow (*Zonotrichia leucophrys*). Other common species expected to occur include, but are not limited to, mallard (*Anas platyrhynchos*), Wilson's snipe (*Gallinago delicata*), white-winged dove (*Zenaida asiatica*), white-throated swift (*Aeronautes saxatalis*), Anna's hummingbird (*Calypte anna*), barn swallow (*Hirundo rustica*), hooded oriole (*Icterus cucullatus*), and lesser goldfinch (*Spinus psaltria*). Recent burrowing owl sign was found and will be discussed in detail in Section 5 below.

The mammals detected in the PPA/APE included the Audubon's cottontail (*Sylvilagus audubonii*), coyote, (*Canis latrans*), and other small mammals, particularly rodents, as a variety of small mammal burrows and tracks were observed (see Photos 27-28). Other common species that would be expected to occur in the PPA/APE include black-tailed jackrabbit (*Lepus californicus*), deer mouse (*Peromyscus maniculatus*), and bobcat (*Lynx rufus*).

4.5 Special-status Species

Plant or animal taxa may be considered "sensitive" or as having "special-status" due to declining populations, vulnerability to habitat change, or because they have restricted ranges. Some are listed as threatened or endangered by the USFWS or by the CDFW and are protected by the federal and state Endangered Species Acts and the CNPPA. Others have been identified as sensitive or as special-status species by the USFWS, the CDFW, or by private conservation organizations, including the CNPS. Unlisted sensitive species do not have formal state or federal status, but may nevertheless be considered significant under CEQA.

Knowledge of habitat associations, natural history, seasonality, and distribution is essential in the assessment of the potential for occurrence of the various sensitive plants and animals known to occur throughout the region. For these reasons, special-status species that were not observed in the PPA/APE have the potential to occur based on their geographic distribution, habitat preferences, and the regional location of the PPA/APE. Tables 2-8 below summarize

sensitive species known to occur in the vicinity of the PPA/APE, and include their potential occurrence status in the PPA/APE based on the best available information and the collective expertise of Amec Foster Wheeler biologists.

The CVMSHCP provides conservation for 27 imperiled plant and animal species and 27 natural communities (vegetation). These include federal and state-listed species, federal and state species of concern, and species on the CNPS rare plant species lists. The CVMSHCP has modeled habitat maps for some of these species within the PPA/APE (see Figures 5A-5H). Although not modeled and/or covered by the CVMSHCP, several other special-status species may also potentially occur on and adjacent to the PPA/APE.

The literature review and biological resources assessment resulted in the identification of 50 special-status species which were observed in the PPA/APE, had CNDDDB records within an approximate five mile radius of the PPA/APE, and/or which had habitat, including CVMSHCP modeled habitat, in the PPA/APE. These included 14 plants, two invertebrates, two fishes, one amphibian, two reptiles, 22 birds, and seven mammals. Tables 2 through 8 provide a complete list of these sensitive biological resources, their associated legal status, their general habitat associations, and their respective PPA/APE occurrence potential based on geographic distribution and presence of potentially suitable habitat.

Table 2. Special-status Plants and Vegetation

Species	Status	Habitat	Probability
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	CVMSHCP: No F = ND C = S2 CNPS: 1B.1	Sandy areas in chaparral, coastal scrub, desert dunes. 75 to 1600 meters (m.). Blooms (B): January - September	Absent Habitat unsuitable
<i>Astragalus lentiginosus</i> var. <i>coachellae</i> Coachella Valley milk-vetch	CVMSHCP: Yes F = END C = S1 CNPS: 1B.2	Sonoran desert scrub; sandy flats, washes, outwash fans, sometimes on dunes. 40 to 665 m. Blooms (B): January - September	Absent PPA/APE is below known elevational range of the species.
<i>Astragalus sabulorum</i> gravel milk-vetch	CVMSHCP: No F = ND C = S2 CNPS: 2B.2	Sandy or gravelly flats, washes, and roadsides in desert dunes, Mojavean desert scrub, & Sonoran desert scrub. -60 to 930 m.	Absent Habitat unsuitable
<i>Ayenia compacta</i> California ayenia	CVMSHCP: No F = ND C = S3 CNPS: 2B.3	Rocky places in Mojavean & Sonoran desert scrub. 150 to 1095 m. B: March – April.	Absent PPA/APE is below known elevational range of the species.
<i>Cryptantha costata</i> ribbed cryptantha	CVMSHCP: No F = ND C = S4 CNPS: 4.3	Sandy places in desert dunes and Mojavean & Sonoran desert scrub. -60 to 500 m. B: February – May.	Absent PPA/APE is below known elevational range of the species.
<i>Cryptantha holoptera</i> winged cryptantha	CVMSHCP: No F = ND C = S4 CNPS: 4.3	Mojavean & Sonoran desert scrub. 100 to 1690 m. B: March – April	Absent PPA/APE is below known elevational range of the species.

Table 2. Special-status Plants and Vegetation

Species	Status	Habitat	Probability
<i>Ditaxis claryana</i> glandular ditaxis	CVMSHCP: C F = ND C = S2 CNPS: 2B.2	Sandy soils in dry washes and on rocky hillsides in Mojavean & Sonoran desert scrub. 0 to 465 m. B: October – March.	Absent PPA/APE is below known elevational range of the species.
<i>Eschscholzia androuxii</i> Joshua Tree poppy	CVMSHCP: No F = ND C = S3 CNPS: 4.3	Sandy, gravelly and/or rocky desert washes, flats, and slopes in Joshua tree woodland & Mojavean desert scrub. 585 to 1685 m. B: February - June	Absent PPA/APE is below known elevational range of the species.
<i>Jaffueliobryum raui</i> Rau's jaffueliobryum moss	CVMSHCP: No F = ND C = S2? CNPS: 2B.3	Dry openings, rock crevices, & carbonate in alpine dwarf scrub, chaparral, and Mojavean & Sonoran desert scrub. 490 to 2100 m.	Absent PPA/APE is below known elevational range of the species.
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i> Santa Rosa Mountains leptosiphon	CVMSHCP: No F = ND C = S1S2 CNPS: 1B.3	Desert canyons in Sonoran desert scrub, and pinyon & juniper woodland. 1000 to 2000 m. B: May – July.	Absent PPA/APE is below known elevational range of the species.
<i>Mentzelia tridentata</i> creamy blazing star	CVMSHCP: No F = ND C = S3 CNPS: 1B.3	Rocky, gravelly, sandy places in Mojavean desert scrub. 700 to 1175 m. B: March - May.	Absent PPA/APE is below known elevational range of the species.
<i>Nemacaulis denudata</i> var. <i>gracilis</i> slender cottonheads	CVMSHCP: No F = ND C = S2 CNPS: 2B.2	Sandy places in coastal dunes, desert dunes, & Sonoran desert scrub. -50 to 400 m. B: March - May	Absent Habitat unsuitable.
<i>Wislizenia refracta</i> ssp. <i>palmeri</i> Palmer's jackass-clover	CVMSHCP: No F = ND C = S1 CNPS: 2B.2	Chenopod scrub, desert dunes, Sonoran desert scrub, Sonoran thorn woodland. 0 to 300 m., B: January – December.	Absent PPA/APE is below known elevational range of the species.
<i>Xylorhiza cognata</i> Mecca-aster	CVMSHCP: Yes F = ND C = S2 CNPS: 1B.2	Steep canyon slopes, in sandstone and clay in Sonoran desert scrub. 20 to 305 m. B: January - June	Absent PPA/APE is below known elevational range of the species.

Table 3. Special-status Invertebrates

Species	Status	Habitat	Probability
<i>Danaus plexippus</i> pop. 1 monarch - California overwintering population	CVMSHCP: No F = ND C = S2S3	Winter roost sites extend along the coast from northern Mendocino County to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Absent (roost site) Occurs (foraging) One individual observed, but out of range for winter roosts, habitat not present.

<i>Oliarces clara</i> cheeseweed owlfly (cheeseweed moth lacewing)	CVMSHCP = No F = ND C = S2	Inhabits the lower Colorado River drainage. Found under rocks or in flight over streams. <i>Larrea tridentata</i> is the suspected larval host.	Absent Type specimen collected in Mecca in 1908. More recent record is from Mecca Hills, possibly the source of the 1908 insect as well. The only <i>Larrea</i> in the PPA/APE appears to be part of a restoration project. The PPA/APE portion of the CVSC has very few rocks.
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Table 4. Special-status Fish

Species	Status	Habitat	Probability
<i>Xyrauchen texanus</i> razorback sucker	CVMSHCP = No F = END C = END, FP, S1S2	Found in the Colorado River bordering California, but spread into canal systems and drains through import of Colorado River water. Adapted for swimming in swift currents but also need quiet waters. Spawn in areas of sand/gravel/rocks in shallow water.	Absent Nearest CNDDDB record from 1955, about four miles downstream to south. CDFW 2015e does not list any extant populations in the Coachella or Imperial Valleys.
<i>Cyprinodon macularius</i> desert pupfish	CVMSHCP = Yes F = END C = END, S1	Desert ponds, springs, marshes and streams in southern California.	Very Low Nearest CNDDDB records are from approximately 8 miles southeast in drains near the Salton Sea.

Table 5. Special-status Amphibians

Species	Status	Habitat	Probability
<i>Scaphiopus couchii</i> Couch's spadefoot	CVMSHCP: No F = ND C = SSC, S2	Temporary desert rain pools that last at least 7 days for breeding with nearby subterranean refuge sites.	Very Low Nearest CNDDDB record about 5 miles southeast.

Table 6. Special-status Reptiles

Species	Status	Habitat	Probability
<i>Phrynosoma mcallii</i> flat-tailed horned lizard	CVMSHCP = Yes F = ND C = CAN, SSC, S2	Restricted to desert washes and desert flats; requires vegetative cover, ants, and fine sand.	Very Low Nearest CNDDDB records about 5 miles southeast, north, & northwest.
<i>Uma inornata</i> Coachella Valley fringe-toed lizard	CVMSHCP = Yes F = THR C = END, S1	Requires fine, loose, windblown sand interspersed with hardpan and widely spaced desert shrubs.	Absent Habitat unsuitable.

Table 7. Special-status Birds

Species	Status	Habitat	Probability
<i>Ardea alba</i> great egret	CVMSHCP = No F = MBTA C = S4 (nesting colony)	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers & lakes.	Absent (nesting colony) Occurs (foraging) Detected in the PPA/APE by Amec Foster Wheeler biologists.
<i>Ardea herodias</i> great blue heron	CVMSHCP = No F = MBTA C = S4 (nesting colony)	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers, streams, & wet meadows.	Absent (nesting colony) Occurs (foraging) Detected in the PPA/APE by Amec Foster Wheeler biologists.
<i>Egretta thula</i> snowy egret	CVMSHCP = No F = MBTA C = S4 (nesting colony)	Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, & lake borders.	Absent (nesting colony) Occurs (foraging) Detected in the PPA/APE by Amec Foster Wheeler biologists.
<i>Accipiter cooperii</i> Cooper's hawk	CVMSHCP = No F = MBTA C = WL (nesting), S4	Woodland, chiefly of open, interrupted, or marginal type. Nests mainly in riparian deciduous trees & live oaks in canyon bottoms & river flood-plains.	Moderate (nesting) Occurs (foraging) Detected in the PPA/APE by Amec Foster Wheeler biologists.
<i>Accipiter striatus</i> sharp-shinned hawk	CVMSHCP = No F = MBTA C = WL (nesting), S4	Ponderosa pine, black oak, riparian deciduous, mixed conifer & Jeffrey pine habitats. Prefers riparian areas on north-facing slopes, with plucking perches. Nests usually within 275 feet of water.	Absent (nesting) Occurs (foraging / wintering) No suitable habitat & outside of nesting range Detected in the PPA/APE by Amec Foster Wheeler biologist.
<i>Laterallus jamaicensis coturniculus</i> California black rail	CVMSHCP: Yes * [^] F = MBTA, BCC C = THR, FP , S1	Dense coastal and inland marsh, especially where dominated by California & Olney's three square bulrush. Nests often constructed of cattail leaf blades, even though cattails rarely the dominant vegetation type. Prefers water depth of <2.5 cm, with 25% of the substrate inundated.	Very Low No nearby CNDDDB records, but PPA/APE is in CVMSHCP modeled habitat (see Figure 5A). Bulrushes & cattails are intermittently present.

Table 7. Special-status Birds

Species	Status	Habitat	Probability
<i>Rallus obsoletus (longirostris) yumanensis</i> Yuma Ridgway's (clapper) rail	CVMSHCP: Yes [^] F = END C = THR, FP, S1	Nests in fresh-water marshes. Prefers stands of cattails and tules dissected by narrow channels of flowing water.	Low Nearest CNDDDB record is approximately 8 miles downstream, but the CVMSHCP states: "there are records of occurrences from the Whitewater River delta and upstream, in scattered locations, for approximately 10 miles along the CVSC," which places the species in the PPA/APE. PPA/APE is in CVMSHCP modeled habitat (see Figure 5B), and habitat is present.
<i>Larus californicus</i> California gull	CVMSHCP = No F = MBTA C = WL (nesting colony), S4	Littoral waters, sandy beaches, waters & shorelines of bays, tidal mud-flats, marshes, lakes, etc. Colonial nester on islets in large interior lakes, either fresh or strongly alkaline.	Absent (nesting) No suitable habitat & outside of nesting range Occurs (foraging / wintering) Detected in the PPA/APE by Amec Foster Wheeler biologist.
<i>Athene cunicularia</i> burrowing owl	CVMSHCP: Yes [*] F = MBTA, BCC C = SSC (burrow sites & some wintering sites), S2	Open, dry annual or perennial grassland, deserts & scrublands characterized by low-growing vegetation. Burrows essential.	Occurs Reported in the PPA/APE in 2015, burrows with recent sign present.
<i>Calypte costae</i> Costa's hummingbird	CVMSHCP = No F = MBTA C = S4 (nesting)	Desert riparian, desert and arid scrub foothill habitats.	Occurs Detected in the PPA/APE by Amec Foster Wheeler biologist.
<i>Falco mexicanus</i> prairie falcon	CVMSHCP = No F = MBTA, BCC C = SSC (nesting), S3	Breeding sites located on cliffs, but forages far afield.	Breeding: Absent No nesting habitat. Foraging: Low May forage over PPA/APE during nesting or winter season. CNDDDB record from Mecca quadrangle.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	CVMSHCP: Yes F = END C = END, S1 (nesting)	Breeds primarily in dense, willow dominated riparian communities.	Low No nearby CNDDDB records but marginally suitable habitat is present.

Table 7. Special-status Birds

Species	Status	Habitat	Probability
<i>Pyrocephalus rubinus</i> vermillion flycatcher	CVMSHCP = No F = MBTA C = SSC (nesting), S2S3	During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, & other open, mesic areas with nest in cottonwood, willow, mesquite, or other large desert riparian trees.	Low Old CNDDDB record in immediate PPA/APE, habitat present.
<i>Lanius ludovicianus</i> loggerhead shrike	CVMSHCP = No F = MBTA, BCC C = SSC (nesting), S4	Breeds mainly in shrublands or open woodlands with some grass cover & areas of bare ground. Requires tall plants or structures for hunting & vocalization perches and open areas of short grasses, forbs, or bare ground for hunting.	Moderate No nearby CNDDDB records, but habitat is present and has been observed by Amec Foster Wheeler in immediate vicinity during field work for other projects.
<i>Vireo bellii pusillus</i> least Bell's vireo	CVMSHCP: Yes F = END C = END , S2 (nesting)	Riparian vegetation in the vicinity of water or in dry river bottoms; below 2000 feet elevation. Nests usually in willow, baccharis, or mesquite.	Low No nearby CNDDDB records, but CVMSHCP modeled habitat is present (see Figure 5C).
<i>Poliioptila melanura</i> black-tailed gnatcatcher	CVMSHCP = No F = MBTA C = WL, S3S4	Primarily inhabits wooded desert wash habitats; also occurs in desert scrub habitat, especially in winter.	Occurs Detected in the PPA/APE by Amec Foster Wheeler biologist.
<i>Toxostoma crissale</i> crissal thrasher	CVMSHCP = Yes* F = MBTA C = SSC, S3	Resident of deserts in riparian and wash habitats. Nests in dense vegetation.	Moderate Old CNDDDB record in immediate PPA/APE, habitat present.
<i>Toxostoma lecontei</i> Le Conte's thrasher	CVMSHCP = Yes* F = MBTA, BCC C = SSC (San Joaquin population only), S3	Primarily utilizes open desert washes, desert scrub, alkali desert scrub, and desert succulent scrub habitats; commonly nests in a dense, spiny shrub or densely branched cactus.	Very Low Nearest CNDDDB record approximately 5 miles southeast of PPA/APE.
<i>Dendroica petechia brewsteri</i> yellow warbler	CVMSHCP = Yes* F = MBTA, BCC C = SSC (nesting), S3S4	Wetlands & mature riparian woodlands dominated by cottonwoods, alders, and willows. Also uses well-watered, second growth woodlands & gardens.	Low No nearby CNDDDB records, but PPA/APE is in CVMSHCP modeled habitat (see Figure 5D).
<i>Icteria virens</i> yellow-breasted chat	CVMSHCP = Yes* F = MBTA C = SSC (nesting), S3	Riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian within 10 feet of ground.	Low Nearest CNDDDB record approximately 5 miles southeast of PPA/APE. PPA/APE is in CVMSHCP modeled habitat (see Figure 5E).

Table 7. Special-status Birds

Species	Status	Habitat	Probability
<i>Melospiza aberti</i> Abert's towhee	CVMSHCP = No F = MBTA C = S3	Desert riparian & desert wash habitats. Frequents dense vegetation; thickets of willow, cottonwood, mesquite, saltcedar.	Occurs Detected in the PPA/APE by Amec Foster Wheeler biologists.
<i>Piranga rubra cooperi</i> summer tanager	CVMSHCP = Yes * F = MBTA C = SSC (nesting), S1	Mature riparian groves dominated by cottonwoods and willows.	Low No nearby CNDDDB records, but PPA/APE is in CVMSHCP modeled habitat (see Figure 5F).

* Species is to be conserved under the CVMSHCP, but is still protected by the MBTA

^ Species is to be conserved under the CVMSHCP, but is fully protected under state code & cannot be taken

Table 8. Special-status Mammals

Species	Status	Habitat	Probability
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	CVMSHCP = C F = ND C = CAN , SSC, S2 WBWG = H	Throughout California in a wide variety of habitats, most common where mesic. Roosts in the open, usually in caves or mines, hanging from walls & ceilings, but extremely sensitive to human disturbance.	Very Low Nearest CNDDDB record approximately 5 miles southeast of PPA/APE, human disturbance a factor.
<i>Euderma maculatum</i> , spotted bat	CVMSHCP = No F = ND C = SSC, S3 WBWG = H	Occupies a wide variety of habitats from arid deserts & grasslands through mixed conifer forests. Feeds over water & along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	Absent: Roosting No caves or cliffs. Low: Foraging Nearest CNDDDB record approximately 5 miles southeast of PPA/APE.
<i>Eumops perotis californicus</i> western mastiff bat	CVMSHCP = C F = ND C = SSC, S3S4 WBWG = H	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Most commonly roosts in crevices in cliff faces, but also high buildings, trees & tunnels.	Low Nearest CNDDDB record approximately 1 mile northwest of PPA/APE.
<i>Lasiurus xanthinus</i> western yellow bat	CVMSHCP = Yes F = ND C = SSC, S3 WBWG = H	Found in valley foothill riparian, desert riparian & wash, & palm oasis habitats. Forages over water & among trees. Roosts in trees, particularly palms.	Moderate CNDDDB record in the immediate vicinity of PPA/APE, trees and palms present.

Table 8. Special-status Mammals

Species	Status	Habitat	Probability
<i>Neotoma albigula venusta</i> Colorado Valley woodrat	CVMSHCP = No F = ND C = S1S2	Low-lying desert areas in southeastern California. Closely associated with beavertail cactus & mesquite. Intolerant of cold temps. Eats mainly succulent plants. Distribution influenced by abundance of nest building material.	Absent No beavertail or cactus of any kind detected on or near PPA/APE.
<i>Perognathus longimembris bangsi</i> Palm Springs pocket mouse	CVMSHCP = Yes F = ND C = SSC, S2S3	Desert riparian, desert scrub, desert wash & sagebrush habitats. Most common in creosote dominated desert scrub. Occurs in all canopy coverage classes. Rarely found on rocky sites.	Low Nearest CNDDDB record approximately 3 miles northeast of PPA/APE. PPA/APE is in CVMSHCP modeled habitat (see Figure 5G) for the species and rodent tracks and burrows were observed.
<i>Xerospermophilus tereticaudus chlorus</i> Coachella Valley (Palm Springs) round-tailed ground squirrel	CVMSHCP = Yes F = None C = SSC, S1S2	Prefers open, flat, grassy areas in fine-textured, sandy soil in desert succulent scrub, desert wash, desert scrub, alkali scrub, & levees.	Moderate Nearest CNDDDB record approximately 2 miles northwest of PPA/APE. PPA/APE is in CVMSHCP modeled habitat (see Figure 5H) for the species and rodent tracks and burrows were observed.

Definitions of status designations and occurrence probabilities for Tables 2-5

Definitions of occurrence probability:

Occurs: Observed in the PPA/APE by Amec Foster Wheeler personnel or recently reported in the PPA/APE by another reliable source.

High: Observed in similar habitat in region by qualified biologists, or habitat on the PPA/APE is a type often utilized by the species and the PPA/APE is within the known range of the species.

Moderate: Reported sightings in surrounding region, or PPA/APE is within the known range of the species and habitat on the PPA/APE is a type occasionally used by the species.

Low: PPA/APE is within the known range of the species but habitat on the PPA/APE is rarely used by the species

Very Low: Habitat is of marginal suitability and/or PPA/APE is at the edge of species known range or distribution.

Absent: A focused study failed to detect the species, suitable habitat not present, or PPA/APE is outside the geographic distribution of the species.

Unknown: No focused surveys have been performed in the region, and the species' distribution and habitat are poorly known.

CVMSHCP designations

Yes: Conserved by the CVMSHCP

No: Not Specifically Conserved by the CVMSHCP

C: Considered, but not included in the CVMSHCP

Federal designations: (F = federal Endangered Species Act or USFWS designations)

END: Federally listed, Endangered

THR: Federally listed, Threatened

CAN: Candidate for Federal listing

MBTA: Migratory Bird Treaty Act

BEPA: Bald Eagle Protection Act (also protects Golden Eagles)

BCC: Birds of Conservation Concern

ND: No designation

State designations: (C = California Endangered Species Act or CDFG designations)

END:State listed, Endangered

THR:State listed, Threatened

CAN:Candidate for State listing

RARE:State listed, Rare

FP:Fully Protected Species

SSC:Species of Special Concern

WL:Watch List Species

ND:No designation

CDFG state rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point represents a threat designation attached to the rank:

S1 = Critically Imperiled. Less than (<) 6 Element Occurrences (EOs) OR < 1,000 individuals OR < 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 = Apparently Secure. Uncommon but not rare in the state; some cause for long-term concern.

S5 = Secure. Common, widespread, and abundant in the state.

SH = All known California sites are historical, not extant

California Native Plant Society (CNPS) designations:

Primary Categories

LIST 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

LIST 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

LIST 2A: Plants Presumed Extirpated in California, But Common Elsewhere

LIST 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

LIST 3: Plants About Which More Information is Needed - A Review List

LIST 4: Plants of Limited Distribution - A Watch List

Subdivisions within Categories

0.1: Seriously threatened in California

0.2: Moderately threatened in California

0.3: Not very threatened in California

Western Bat Working Group (WBWG) designations:

The Western Bat Working Group is comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western States and provinces. Its goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance and encourage education programs.

H: High: Species which are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats.

M: Medium: Species which warrant a medium level of concern and need closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.

L: Low: Species for which most of the existing data support stable populations, and for which the potential for major changes in status in the near future is considered unlikely. There may be localized concerns, but the overall status of the species is believed to be secure. Conservation actions would still apply for these bats, but limited resources are best used on High and Medium status species.

P: Periphery: This designation indicates a species on the edge of its range, for which no other designation has been determined.



CVMSHCP Model Habitat
Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE

5 A

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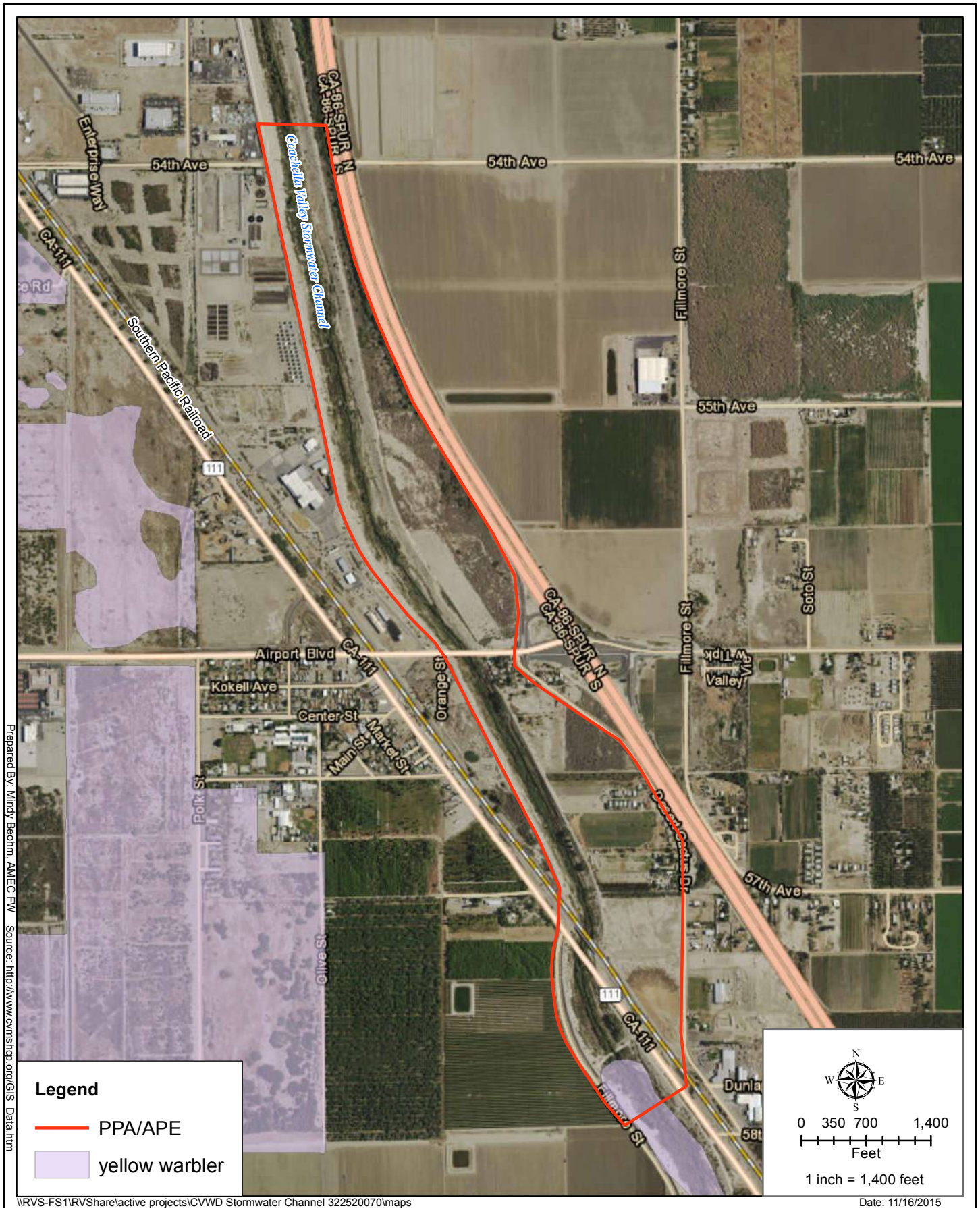
CVMSHCP Model Habitat
Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE
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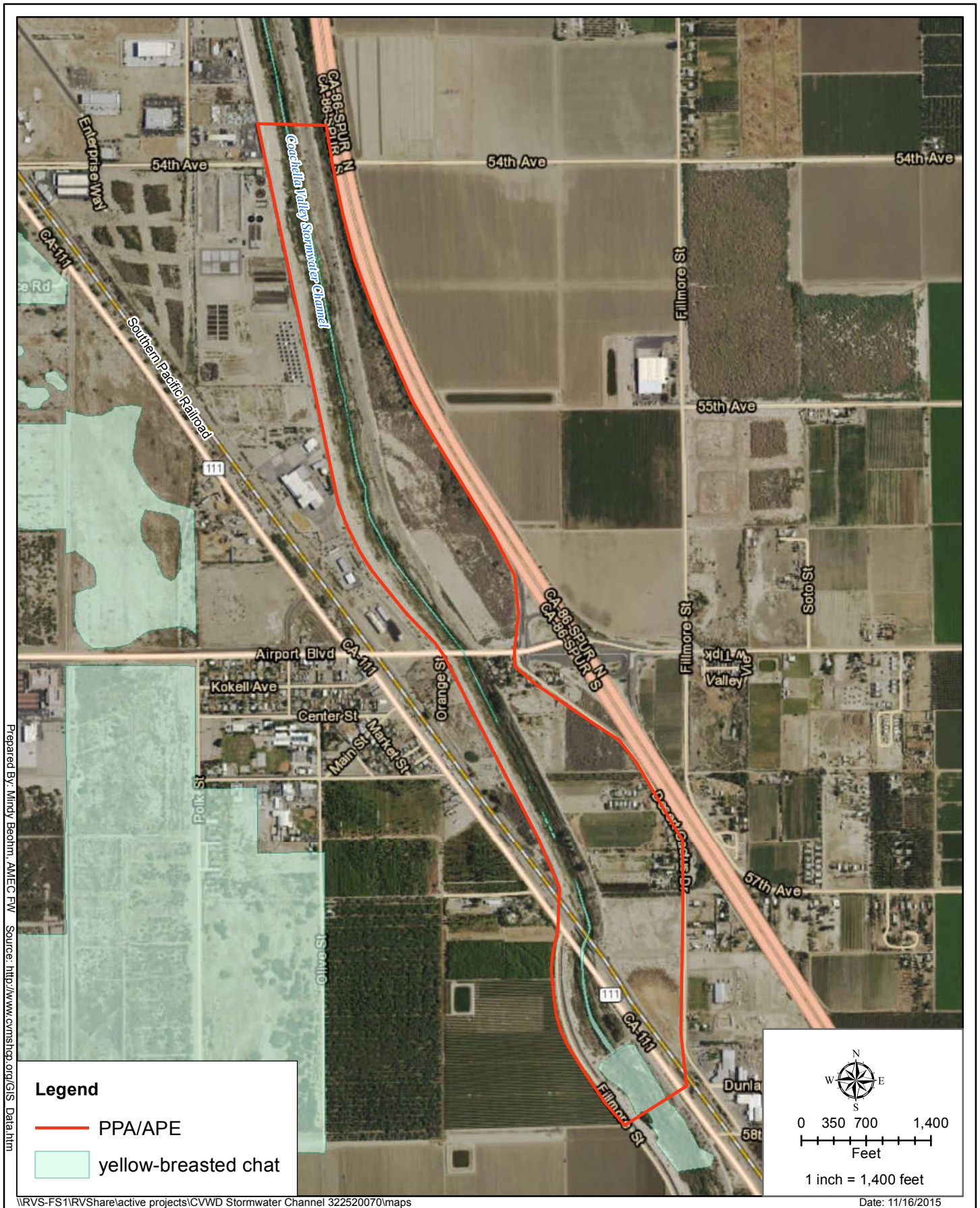


CVMSHCP Model Habitat
Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE

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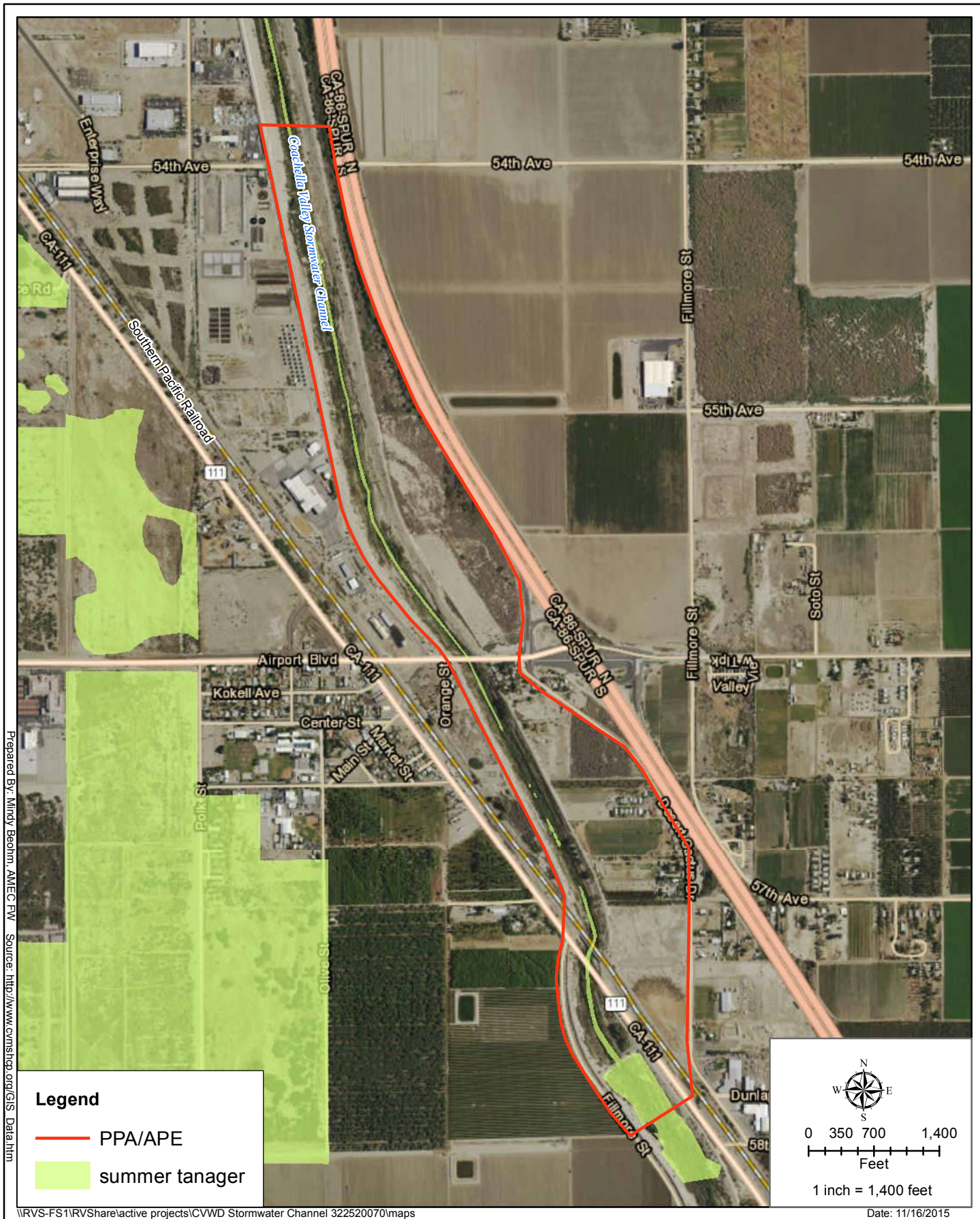


CVMSHCP Model Habitat
 Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE

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CVMSHCP Model Habitat
Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE
5 G

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5.0 DISCUSSION

5.1 Discussion of the Sensitive Species Tables

Of the 50 sensitive elements identified by the literature review to occur in the PPA/APE vicinity (see Tables 2-8 above), 18 were determined to be absent from the PPA/APE, including all of the plant species, the cheeseweed owlfly, the razorback sucker, Coachella Valley fringe-toed lizard, and the Colorado Valley woodrat. Since they are not expected to occur within the PPA/APE or be impacted, those 18 species will not be discussed further.

Of the remaining 32 species, seven are fully covered and conserved by the CVMSHCP: desert pupfish, flat-tailed horned lizard, southwestern willow flycatcher, least Bell's vireo, western yellow bat, Palm Springs pocket mouse, and Coachella Valley (Palm Springs) round-tailed ground squirrel. Since potential impacts to these seven species will be mitigated through CVWD's participation in the CVMSHCP they will not be discussed further. The remaining 25 species will be discussed below.

5.1.1 Monarch

This unlisted insect is not covered by the CVMSHCP. It is ranked S2S3 by the state (imperiled - vulnerable), but has no other state or federal status. The species has been included on the CDFW's Special Animals list (2015) primarily to protect its wintering roosts along the coast. A single butterfly was seen foraging in the PPA/APE. We are not recommending any further action in regard to this species, as the PPA/APE is not coastal and does not contain monarch roost sites.

5.1.2 Couch's Spadefoot

This unlisted toad is not covered by the CVMSHCP. It is considered a Special Concern Species by the CDFW and is ranked S2 by the state (imperiled), but has no other state or federal status. It may occur in the PPA/APE in temporary rain pools (if any) and flooded date palm orchards, at least one of which is within the PPA/APE (see Photo 17), may also provide breeding habitat and refugia. The channel itself is not habitat for the species. There is only one known local record, five miles to the southeast, and limited potential habitat in the PPA/APE. Amec Foster Wheeler recommends that substantial temporary pools and orchards be avoided or surveyed for this species and its' eggs and tadpoles prior to disturbance to avoid impacts to breeding spadefoots.

5.1.3 Bats

Three additional species of bats were found to have records in the PPA/APE vicinity: Townsend's big-eared bat, spotted bat, and western mastiff bat. One of these, the spotted bat, only has foraging potential in the PPA/APE. Although implementation of the proposed project may represent an incremental loss of potential spotted bat foraging habitat, it is not expected to have a significant impact on the species or to result in its take. We are not recommending any further action on behalf of the spotted bat.

The Townsend's big-eared bat could roost on the walls and ceilings of bridges, culverts, and other structures in the PPA/APE, but is most often associated with caves or mines. Human disturbance is frequent in the PPA/APE, and may be a limiting factor for this species. The

western mastiff bat prefers roosts in high places such as cliff crevices, but could use trees or structures in the PPA/APE. Both species may forage in the PPA/APE.

Take of these or other roosting bat species may be considered significant. Although no bats were seen during the biological resource assessment, suitable roosting habitat was seen. Focused surveys may be required to ensure that bats are not present so that they are not harmed or disturbed by construction activities. Some potential roost sites detected in the PPA/APE include areas under the Highway 111, Southern Pacific Railroad, and Airport Boulevard Bridges and structures in the CVSC near the Southern Pacific Railroad Bridge (see Appendix 3, Photos 6-7, 9-10, and 19-20).

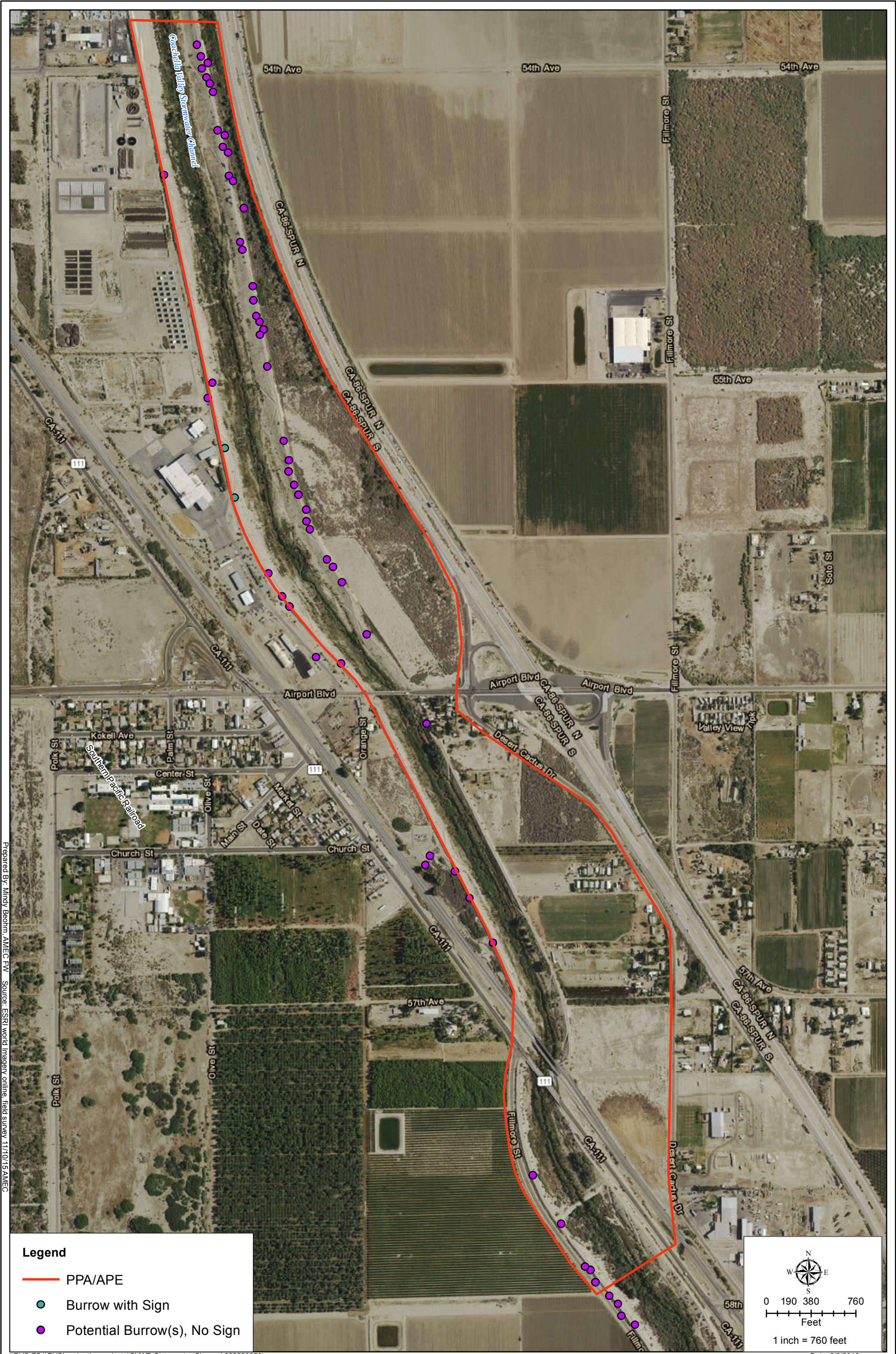
5.1.4 Rails

The California black rail and Yuma Ridgway's (clapper) rail are covered species under the CVMSHCP, but because they are both California Fully Protected species, no take is allowed. Also, because the California black rail is not federally listed, take of that species is also prohibited under the MBTA. For both species, the CVMSHCP states: "Surveys will be required in potential Habitat for this rail before any activity that would impact the Habitat. If rails are found, the Habitat must be avoided or measures approved by The Wildlife Agencies taken to ensure that no take of an individual occurs." Protocol level surveys for these species are conducted between March 15th and May 31st, and require a minimum of three visits for California black rail (Conway et al 2002) and two for Yuma Ridgway's (clapper) rail (USFWS 2000).

5.1.5 Burrowing Owl

The Burrowing Owl (BUOW) is a covered species under the CVMSHCP, but the federal permit for the CVMSHCP does not allow take of this species under the MBTA. This species nests and roosts underground, and is thus particularly vulnerable to ground disturbing activities. Project hydrologists encountered a BUOW at its burrow several months ago, and Amec Foster Wheeler biologists found BUOW sign at that burrow (see Appendix 3, Photos 24-25) and at another nearby burrow (see Appendix 3, Photo 26) during a protocol burrow survey on 10 November 2015 (see Figure 6). Numerous burrows or burrow-like structures suitable for occupation by BUOWs, but without any sign of BUOW usage (see Appendix 3, Photos 13-14, for example), were observed in or immediately adjacent to the PPA/APE (see Figure 6).

Actions to avoid take of the burrowing owl will need to be performed prior to project activities. The "CDFW recommends two take avoidance surveys. The first should occur between 14 and 30 days prior to ground disturbance and the second within 24 hours of ground disturbance" (CDFW 2014b).



Burrowing Owl Burrow Survey
Coachella Valley Stormwater Channel Improvement Project - Phase 1

FIGURE
6

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5.1.6 Bird Species Not Covered by the CVMSHCP Which Do Not Nest in the PPA/APE

The great egret, great blue heron, and snowy egret are unlisted species which nest colonially. Their nesting colonies are considered sensitive, but they are all ranked S4 (apparently secure). Although these species occur in the PPA/APE for foraging, there are no known rookery sites in or near the PPA/APE or sufficiently wide, undisturbed habitat for the establishment of such.

The unlisted sharp-shinned hawk is a migrant and winter visitor only. It is considered to be a watch list species by the state. It breeds in montane areas. Although this species occurs in the PPA/APE for foraging, no nesting habitat is present.

The unlisted California gull is a visitor only. Their nesting colonies are considered sensitive, but the species is ranked S4 (apparently secure). It is a colonial breeder on islands in lakes well to the north of our region. Although this species occurs in the PPA/APE for foraging, no nesting habitat is present.

The unlisted prairie falcon is considered to be of federal conservation concern and is designated a species of special concern by the state. It nests on cliffs. No nesting habitat is present on or adjacent to the PPA/APE. This species may occasionally forage over the PPA/APE while breeding or wintering.

Although implementation of the proposed project will represent an incremental loss of foraging habitat, it is not expected to have a significant impact on these species or to result in their take. We are not recommending any further surveys or mitigation.

5.1.7 Other Bird Species Included in the CVMSHCP for which MBTA Take is not Permitted

The following bird species are covered species under the CVMSHCP, but like the BUOW, the federal permit for the CVMSHCP does not allow their take under the MBTA: crissal thrasher, Le Conte's thrasher, yellow warbler, yellow-breasted chat, and summer tanager. Nesting habitat for all of these species has been periodically available in the PPA/APE, and was present at the time of Amec Foster Wheeler's field visits. Recent and periodic future channel clearing has, and in the future will, remove all or portions of this vegetation as a part of CVWD's channel maintenance and is mitigated through CVWD's participation in the CVMSHCP and their 144 acre constructed habitat project on NE shore of Salton Sea. Nesting bird surveys for compliance with the MBTA will prevent take of MBTA protected species. This will be discussed further below.

5.1.8 Other Special-Status Bird Species not Included in the CVMSHCP

The Cooper's hawk, Costa's hummingbird, vermilion flycatcher, loggerhead shrike, black-tailed gnatcatcher, and Abert's towhee are all special-status species which may nest in the PPA/APE. Regardless of their status, all are protected from take by the MBTA. Nesting bird surveys for compliance with the MBTA will prevent impacts to these species. This will be discussed further below.

5.2 Migratory Bird Treaty Act (MBTA)

Excluded from coverage under the CVMSHCP are a variety of common bird species that are protected by the MBTA. This includes virtually all native migratory and resident bird species,

including many of the birds already known to occur in the vicinity (see Appendix 2). Exceptions are discussed above. Avoidance of impacts to nesting migratory and resident birds is a requirement of the federal permit issued for the CVMSHCP. In order to avoid impacting nesting birds, either avoidance of project-related disturbance during the nesting season (generally from approximately January 15 through July 31 for the Coachella Valley) or nesting bird surveys conducted by a qualified ornithologist or biologist immediately prior to PPA/APE disturbance during the nesting season would be required. If nesting birds are present, no work would be permitted near the nest until young have fledged. While there is no established protocol for nest avoidance, when consulted, the CDFW generally recommends avoidance buffers of about 500 feet for birds-of-prey, and 100 – 300 feet for songbirds.

The only nest sites detected to date in the PPA/APE were inactive cliff swallow nests on the Highway 111 and Airport Boulevard Bridges (see Appendix 3, Photos 6 and 19) and the previously discussed burrowing owl burrows with sign.

5.3 Waters

Jurisdictional waters and/or wetlands appear to be present. An Amec Foster Wheeler waters specialist will review the ICF International (2014) JD's methodology and confirm the extent of jurisdictional waters and wetlands within the subject reach of the Phase I project and will present those findings in a separate document.

5.4 CVMSHCP Plan Consistency

No wildlife corridors or biological linkages are mapped or known in or adjacent to the PPA/APE. Four of the nearest CVMSHCP conservation areas (see Figure 2) are the Mecca Hills/Orocopia Mountains Conservation Area (2.9 miles away), Desert Tortoise & Linkage Conservation Area (3.4 miles), East Indio Hills Conservation Area (3.6 miles), and Santa Rosa and San Jacinto Mountains Conservation Area (6.2 miles). With no planned corridors or linkages, and no adjacency to the PPA/APE, these conservation areas will not suffer edge effects from this project and the proposed project will not have an effect on the functions or assembly of the CVMSHCP conservation area in their regard.

The Coachella Valley Stormwater Channel & Delta Conservation Area, however, which is 4.3 miles downstream from the proposed project could suffer impacts as a result of project construction. To prevent degradation of downstream water quality, Best Management Practices (BMPs) recommended by or acceptable to the CVMSHCP and state and federal waters agencies will need to be followed.

There is an "Environmentally Sensitive Habitat Restoration Mitigation" area (ESHRM) in a basin in the northern PPA/APE (Tetra Tech 2014). The ESHRM is east of the CVSC, and extends north beyond the PPA/APE (see Figure 2). The ESHRM's relationship to the CVMSHCP, if any, is unknown. Caltrans appears to be the owner (Riverside County Information Technology 2015) and the ESHRM may have been a mitigation project associated with construction of the 86 Expressway. The only signage for the ESHRM found by Amec Foster Wheeler is along the expressway, and these simply state: "Keep Out, Sensitive Habitat." We suggest that the ESHRM be avoided. Portions of the ESHRM can be seen in Appendix 3, Photos 37-40.

6.0 CONCLUSION

Implementation of the proposed project would result in the permanent and/or temporary disturbance of up to 262 acres, including the biological resources occurring or potentially occurring in the PPA/APE. Most of the project impacts will be mitigated through CVWD's participation in the CVMSHCP.

With the implementation of the recommendations above, impacts to special-status species potentially occurring in the PPA/APE and their habitats would be expected to be mitigated to a less than significant level. Recommendations include surveys as needed for Couch's spadefoot, bats, rails, BUOW, and MBTA protected nesting birds, compliance with the recommendations of the forthcoming JD, avoidance of the Environmentally Sensitive Habitat Restoration Mitigation area, and the use of BMPs to prevent quality degradation of water flowing downstream to the Coachella Valley Stormwater Channel & Delta Conservation Area.

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APPENDIX 1

SPECIES LIST: VASCULAR PLANTS

Species List: Vascular Plants

This list reports only plants observed on the PPA/APE by this study. Other species may have been overlooked or undetectable due to their growing season.

† = special-status species, * = non-native species, sp. = identified only to genus, cf = compares favorably with, var. = variety, ssp. = subspecies

DICOTYLEDONEAE

Aizoaceae

Sesuvium verrucosum
Trianthema portulacastrum

Amaranthaceae

Amaranthus palmeri

Asteraceae

Bebbia juncea var. *aspera*
Eclipta prostrata
Encelia farinosa
Isocoma acradenia
Palafoxia arida
Pluchea odorata var. *odorata*
Pluchea sericea
 **Pulicaria paludosa*
Symphotrichum subulatum
Xanthium strumarium

Boraginaceae

Heliotropium curassavicum var. *oculatum*

Chenopodiaceae

Atriplex canescens
Atriplex lentiformis
 **Bassia hyssopifolia*
Suaeda nigra

Euphorbiaceae

**Ricinus communis*

Fabaceae

**Melilotus albus*
 **Parkinsonia aculeata*
Parkinsonia florida
Prosopis glandulosa var. *torreyana*
Sesbania herbacea

Onagraceae

**Ludwigia peploides*

Polygonaceae

Persicaria lapathifolia

Salicaceae

Populus fremontii ssp. *fremontii*
Salix exigua var. *hindsiana*
Salix gooddingii

DICOT FLOWERING PLANTS

Fig-Marigold Family

western sea-purslane
 horse-purslane

Amaranth Family

Palmer's amaranth

Sunflower Family

sweetbush
 false daisy
 brittlebush
 alkali goldenbush
 Spanish-needle
 saltmarsh-fleabane
 arrow-weed
 Spanish false fleabane
 annual saltmarsh aster
 cocklebur

Borage Family

alkali heliotrope

Goosefoot Family

four-wing saltbush
 big saltbush
 fivehorn smotherweed
 bush seepweed

Spurge Family

castor bean

Pea Family

white sweetclover
 Mexican palo verde
 blue palo verde
 honey mesquite
 bigpod sesbania

Evening Primrose Family

floating primrose-willow

Buckwheat Family

willow weed

Willow Family

Fremont cottonwood
 Hinds' willow
 Goodding's black willow

Tamaricaceae

**Tamarix aphylla*

**Tamarix ramosissima*

Zygophyllaceae

Larrea tridentata

**Tribulus terrestris*

MONOCOTYLEDONEAE

Arecaceae

*cf. *Phoenix* sp.

Washingtonia sp.

Cyperaceae

Bolboschoenus maritimus ssp. *paludosus*

Schoenoplectus americanus

Poaceae

**Cynodon dactylon*

Distichlis spicata

Phragmites australis

**Polypogon monspeliensis*

Typhaceae

Typha sp.

Tamarisk Family

athel

saltcedar

Caltrop Family

creosote bush

puncture vine

MONOCOT FLOWERING PLANTS

Palm Family

date/Canary Island type palm

fan palm

Sedge Family

alkali bulrush

Olney's three-square bulrush

Grass Family

Bermuda grass

salt grass

common reed

rabbitfoot grass

Cattail Family

cattail

APPENDIX 2

SPECIES LIST: VERTEBRATE ANIMALS

Species List: Vertebrate Animals

This list reports only the vertebrate animals observed by this study. Other species may have been overlooked or undetectable due to their activity patterns or weather conditions. [*†* = *special-status species*, * = non-native species, sp. = identified only to genus, *cf* = compares favorably with]

OSTEICHTHYES

≥ one spp.

REPTILIA

Phrynosomatidae

Uta stansburiana

AVES

Ardeidae

†Ardea herodias

†Ardea alba

†Egretta thula

Butorides virescens

Cathartidae

Cathartes aura

Accipitridae

†Accipiter striatus

†Accipiter cooperii

Buteo jamaicensis

Rallidae

Fulica americana

Charadriidae

Charadrius vociferous

Laridae

Larus delawarensis

†Larus californicus

Columbidae

**Columba livia*

**Streptopelia decaocto*

Zenaida macroura

Cuculidae

Geococcyx californianus

Strigidae

†Athene cunicularia

Trochilidae

†Calypte costae

BONY FISH

unidentified small fishes

REPTILES

Horned Lizards, Spiny Lizards & Relatives

side-blotched lizard

BIRDS

Herons, Bitterns, and Allies

great blue heron

great egret

snowy egret

green heron

New World Vultures

turkey vulture

Hawks, Kites, Eagles, and Allies

sharp-shinned hawk

Cooper's hawk

red-tailed hawk

Rails, Gallinules, and Coots

American coot (found dead)

Lapwings and Plovers

killdeer

Gulls, Terns, and Skimmers

ring-billed gull

California gull

Pigeons and Doves

rock pigeon

Eurasian collared-dove

mourning dove

Cuckoos, Roadrunners, and Anis

greater roadrunner

Typical Owls

burrowing owl (sign)

Hummingbirds

Costa's hummingbird

Alcedinidae

Megaceryle alcyon

Picidae

Picoides scalaris

Falconidae

Falco sparverius

Tyrannidae

Sayornis nigricans

Sayornis saya

Corvidae

Corvus corax

Hirundinidae

Petrochelidon pyrrhonota

Remizidae

Auriparus flaviceps

Troglodytidae

Cistothorus palustris

Thryomanes bewickii

Poliophtilidae

Poliophtila caerulea

†*Poliophtila melanura*

Regulidae

Regulus calendula

Mimidae

Mimus polyglottos

Sturnidae

**Sturnus vulgaris*

Motacillidae

Anthus rubescens

Parulidae

Oreothlypis celata

Geothlypis trichas

Setophaga coronata

Emberizidae

†*Melospiza aberti*

Artemisiospiza sp.

Melospiza melodia

Melospiza lincolnii

Zonotrichia leucophrys

Icteridae

Agelaius phoeniceus

Kingfishers

belted kingfisher

Woodpeckers and Allies

ladder-backed woodpecker

Caracaras and Falcons

American kestrel

Tyrant Flycatchers

black phoebe

Say's phoebe

Crows, Jays, and Magpies

common raven

Swallows

cliff swallow (inactive nests only)

Penduline Tits and Verdins

verdin

Wrens

marsh wren

Bewick's wren

Gnatcatchers and Gnatwrens

blue-gray gnatcatcher

black-tailed gnatcatcher

Kinglets

ruby-crowned kinglet

Mockingbirds and Thrashers

northern mockingbird

Starlings

European starling

Wagtails and Pipits

American pipit

Wood-Warblers

orange-crowned warbler

common yellowthroat

yellow-rumped warbler

Emberizids

Abert's towhee

sage sparrow

song sparrow

Lincoln's sparrow

white-crowned sparrow

Blackbirds

red-winged blackbird

Euphagus cyanocephalus
Quiscalus mexicanus
Molothrus ater

Fringillidae

Haemorhous mexicanus

Passeridae

**Passer domesticus*

MAMMALIA

Leporidae

Sylvilagus audubonii

Rodentia

≥ two spp.

Geomyidae

Thomomys bottae

Canidae

**Canis familiaris*

Canis latrans

Brewer's blackbird
great-tailed grackle
brown-headed cowbird

Fringilline & Cardueline Finches and Allies

house finch

Old World Sparrows

house sparrow

MAMMALS

Rabbits and Hares

Audubon's cottontail

Rodents

burrows & tracks cf. mice, rats, squirrels, etc.

Pocket Gophers

Botta's pocket gopher

Foxes, Wolves and Relatives

dog (tracks)

coyote (scat)

APPENDIX 3
PHOTOGRAPHIC EXHIBITS



Photo 1. Looking south at the CVSC and the south end of PPA/APE downstream of the Thermal Drop structure. Note relatively recent fire damage.



Photo 2. Looking north at the Thermal Drop structure from within the CVSC. Note relatively recent fire damage.



Photo 3. Marshy area at the base of the Thermal Drop structure. Note relatively recent fire damage.



Photo 4. Looking north at Thermal Drop structure, Highway 111 Bridge over the CVSC, and burned Sonoran Cottonwood-Willow Riparian Forest and Tamarisk Scrub.



Photo 5. Looking north at from near the Thermal Drop structure at Fillmore Street, burned forest, and Highway 111 Bridge over the CVSC. Note relatively recent fire damage.



Photo 6. Looking south at inactive cliff swallow nests and potential bat roosting areas on the Highway 111 Bridge over the CVSC.



Photo 7. Potential bat roosting & bird nesting areas on Highway 111 & Southern Pacific (SP) Railroad Bridges over the CVSC. The fire burned to this point and south.



Photo 8. Marshy spot near the Highway 111 and SP Railroad Bridges.



Photo 9. Structures in the east levee, north of the SP Railroad Bridge. Potential bird and bat habitat.



Photo 10. Looking southeast from the west levee north of the SP Railroad Bridge. Structures from previous photo are at left.



Photo 11. Looking north from the west levee north of the SP Railroad Bridge.



Photo 12. Looking west from the west levee north of the SP Railroad Bridge. Working from foreground back, the most visible natural communities are salt grass flats, coastal and valley freshwater marsh, and tamarisk scrub.



Photo 13. Example of potential burrowing owl habitat in survey buffer west of west levee between Airport Boulevard & Highway 111/SP Railroad.



Photo 14. Example of potential burrowing owl habitat in the buffer west of the west levee between Airport Boulevard and Highway 111/SP Railroad.



Photo 15. Looking south from the east levee, north of the SP Railroad Bridge.



Photo 16. Looking north from the east levee, south of Airport Boulevard. Tamarisk scrub is prominent at center and background.



Photo 17. Looking southeast at agriculture and rural residential east of the east levee, between Airport Boulevard and Highway 111/SP Railroad.



Photo 18. Looking northeast at disturbed desert saltbush scrub and rural residential east of the east levee, between Airport Boulevard and Highway 111/SP Railroad. Undisturbed desert saltbush scrub at far right.



Photo 19. Inactive cliff swallow nests and potential bat habitat on Airport Boulevard Bridge.



Photo 20. Overhead access to interior of the Airport Boulevard Bridge. Clearly utilized by birds, but also provides potential bat access.



Photo 21. Marshy area under the Airport Boulevard Bridge.



Photo 22. Looking north from the Airport Boulevard Bridge. Salt grass flats and coastal and valley freshwater marsh are the prominent natural communities here. Equipment at upper left would soon arrive to remove most of the vegetation from the salt grass flats for channel maintenance.



Photo 23. Looking north from the west levee, north of the Airport Boulevard Bridge. CVSC maintenance equipment is actively pumping water from the channel for dust control and removing emergent shrubs and most herbaceous plants from the salt grass flats area.



Photo 24. Tracks from recent channel maintenance in the vicinity of known, occupied burrowing owl burrow (stakes).



Photo 25. Known, occupied burrowing owl burrow with sign. An owl was reported here by project hydrologists, but no owl was seen during Amec Foster Wheeler survey. West levee between Airport Boulevard and 54th Avenue.



Photo 26. Additional occupied burrowing owl burrow with sign. No owl was seen during survey. West levee between Airport Boulevard and 54th Avenue.



Photo 27. Small rodent burrow.



Photo 28. Small rodent burrow with tracks.



Photo 29. Looking north from near the west levee between Airport Boulevard and 54th Avenue at recently maintained salt grass flats.



Photo 30. A major source of water in this reach of the CVSC, this flow appears to be from an underground outfall from the water treatment plant south of 54th Avenue and west of the channel.



Photo 31. Near north end of PPA/APE, example of how the current CVSC maintenance goes right up to the edge of the active channel. Sonoran Cottonwood-Willow Riparian Forest is prominent in the remaining tall vegetation layer.



Photo 32. Looking southeast from the east levee north of Airport Boulevard at disturbed and undisturbed desert saltbush scrub in the PPA/APE.



Photo 33. Looking north from the east levee north of Airport Boulevard at disturbed and undisturbed desert saltbush scrub in the PPA/APE.



Photo 34. Looking north from the east levee north of Airport Boulevard at arrow-weed scrub (green in foreground), and disturbed & undisturbed desert saltbush scrub in the PPA/APE.



Photo 35. Looking south at the CVSC from the east levee between Airport Boulevard and 54th Avenue.



Photo 36. Looking north at the CVSC from the east levee between Airport Boulevard and 54th Avenue.



Photo 37. Looking west at PPA/APE from east levee between Airport Boulevard and 54th Avenue. This is the south boundary of the “Environmentally Sensitive Habitat Restoration Mitigation” area (ESHRM). To the right is upland desert saltbush scrub, while to the left is the ESHRM basin dominated by arrow-weed scrub.



Photo 38. Looking north at PPA/APE from east levee in the ESHRM. Arrow-weed scrub in foreground, mesquite hummocks restoration in background. Also a few fan palms, presumably planted.



Photo 39. Looking north at PPA/APE from east levee in the ESHRM. Mesquite hummocks restoration in background. Also a date type palms.



Photo 40. Looking northeast at PPA/APE from east levee in the ESHRM. The open area is a stub of what would be 54th Avenue. Arrow-weed scrub at right, mesquite hummocks restoration at left.



Photo 41. Looking south at the CVSC from the west dike near the north end of the PPA/APE in the vicinity of 54th Avenue.



Photo 42. Presumed stormwater culvert draining into the CVSC from the west dike near 54th Avenue.

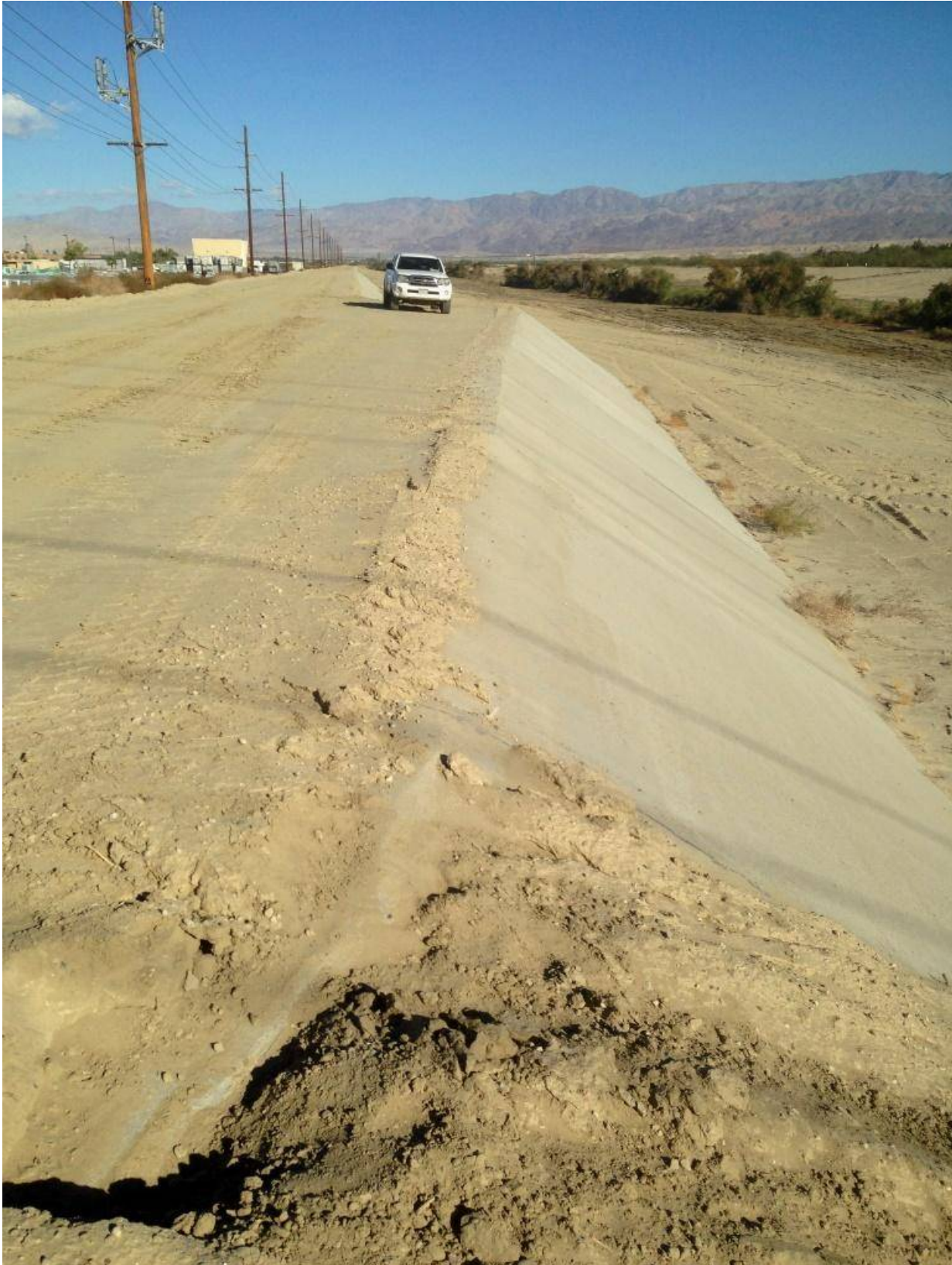


Photo 43. Looking north at the CVSC from the west dike at the north end of the PPA/APE in the vicinity of 54th Avenue. Note concrete bank lining which begins in this area and extends north.