INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION

ROUTINE MAINTENANCE OF STREAM CHANNELS AND DRAINAGE FACILITIES

CITY OF RANCHO CORDOVA, CALIFORNIA

Prepared for:

City of Rancho Cordova
2729 Prospect Park Drive
Rancho Cordova, CA 95670

Prepared by:

Dokken Engineering
110 Blue Ravine Road, Suite 200
Rancho Cordova, California 95630
(916) 858-0642

September 2014

General Information About This Document

The City of Rancho Cordova is the lead agency under CEQA for the preparation of this Proposed Mitigated Negative Declaration for the Routine Maintenance of Stream Channels and Drainage Facilities. The project is proposed by the City of Rancho Cordova Department of Public Works.

The City has preliminarily determined that a Mitigated Negative Declaration is the appropriate environmental document for the proposed project. This environmental review examines project effects which are identified as less than significant with mitigation incorporated, less than significant or no impact. It is believed at this time that the project would not result in potentially significant impacts. Therefore, a Mitigated Negative Declaration is the proposed environmental document for this project. Formatting of this document follows standards of the California Environmental Quality Act.

The document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures. The City is soliciting views of interested persons and agencies on the content of the environmental information presented in this document. Due to time limits mandated by state law, your responses must be sent at the earliest possible date, but no later than the 30-day review period ending on October 6, 2014.

What you should do:

- Please read this document.
- Additional copies of this document and related technical studies are available for review at the City of Rancho Cordova Department of Public Works, and the Rancho Cordova Library at 9845 Folsom Blvd, Sacramento, CA 95827.
- We'd like to hear what you think. If you have any comments about the proposed project, please send your written comments to the City by the deadline.
- Send comments via postal mail to:
  City of Rancho Cordova Department of Public Works,
  Attn: Britton Snipes, Project Manager,
  2729 Prospect Drive, Rancho Cordova, CA 95670
- Send comments via email to: bsnipes@cityofranchocordova.org.
- Be sure to send comments by the deadline: October 6, 2014

What happens next:
After comments are received from the public and reviewing agencies, the City may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval, the City could maintain all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to City of Rancho Cordova Department of Public Works, Attn: Britton Snipes, Project Manager, 2729 Prospect Drive, Rancho Cordova, CA 95670, (916) 851-8710, or bsnipes@cityofranchocordova.org, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Routine Maintenance of Stream Channels and Drainage Facilities within the City of Rancho Cordova

INITIAL STUDY with Proposed Mitigated Negative Declaration /

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

City of Rancho Cordova Department of Public Works

Britton Snipes,
Project Manager
City of Rancho Cordova Department of Public Works
CEQA Lead Agency

.

PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The City of Rancho Cordova's (City) Stormwater Program and drainage services are administered by the City's Public Works Department which includes engineering, regulatory compliance, and operations and maintenance of the storm drain system. The City is approximately 34 square miles, relies on two levees and approximately 88 miles of creek, 17 miles of unlined open channels and 5 miles of concrete-lined channels to convey stormwater, and manages many detention/water quality basins.

The County of Sacramento has been providing maintenance of creeks and channels in Rancho Cordova. The routine maintenance activities are covered under a Routine Maintenance Agreement (RMA) between the County of Sacramento and the California Department of Fish and Wildlife (CDFW) for activities in unimproved and improved channels. In July 2014, the City assumed drainage maintenance activities from the County. To establish authority to perform maintenance activities within jurisdictional components of the creek and stormwater system, the City is required to enter into a RMA with CDFW that meets the current code requirements. Work within Waters of the U.S. is authorized under U.S. Army Corps of Engineers Nationwide Permit 3 for maintenance activities. Water quality measures from the City's Multiple Separate Storm Sewer System (MS4) program would apply to the maintenance activities.

The City is the project proponent for the project and is the lead agency under the California Environmental Quality Act (CEQA). The project is locally funded.

Determination

This proposed Mitigated Negative Declaration [MND] is included to give notice to interested agencies and the public that it is the City's intent to adopt a MND for this project. This does not mean that the City's decision regarding the project is final. This MND is subject to change based on comments received by interested agencies and the public.

The City has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would have a less than significant impact or effect on the environment for the following reasons:

The proposed project would have no effect on Agriculture Resources, Hazards & Hazardous Materials, Land Use / Planning, Mineral Resources, Population / Housing, Public Services, Recreation, Transportation/Traffic, Utilities / Service Systems.

The proposed project would have less than significant impacts with avoidance and minimization to the following resources: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology /Soils, Hydrology / Water Quality, and Noise.

No mitigation measures are required for the proposed project activities.

_____ _____

Britton Snipes Date
Project Manager
City of Rancho Cordova Department of Public Works

TABLE OF CONTENTS

FIGURES

TABLES

INTRODUCTION AND PROJECT DESCRIPTION

Project Background

The City of Rancho Cordova's (City) Stormwater Program and drainage services are administered by the City's Public Works Department which includes engineering, regulatory compliance, and operations and maintenance of the storm drain system. The City is approximately 34 square miles, relies on two levees and approximately 88 miles of creek, 17 miles of unlined open channels and 5 miles of concrete-lined channels to convey stormwater, and manages many detention/water quality basins.

The County of Sacramento has been providing maintenance of creeks and channels in Rancho Cordova. The routine maintenance activities are covered under a Routine Maintenance Agreement (RMA) between the County of Sacramento and the California Department of Fish and Wildlife (CDFW) for activities in unimproved and improved channels. In July 2014, the City assumed drainage maintenance activities from the County. To establish authority to perform maintenance activities within jurisdictional components of the creek and stormwater system, the City is required to enter into a RMA with CDFW that meets the current code requirements. Work within Waters of the U.S. is authorized under U.S. Army Corps of Engineers Nationwide Permit 3 for maintenance activities. Water quality measures from the City's Multiple Separate Storm Sewer System (MS4) program would apply to the maintenance activities.

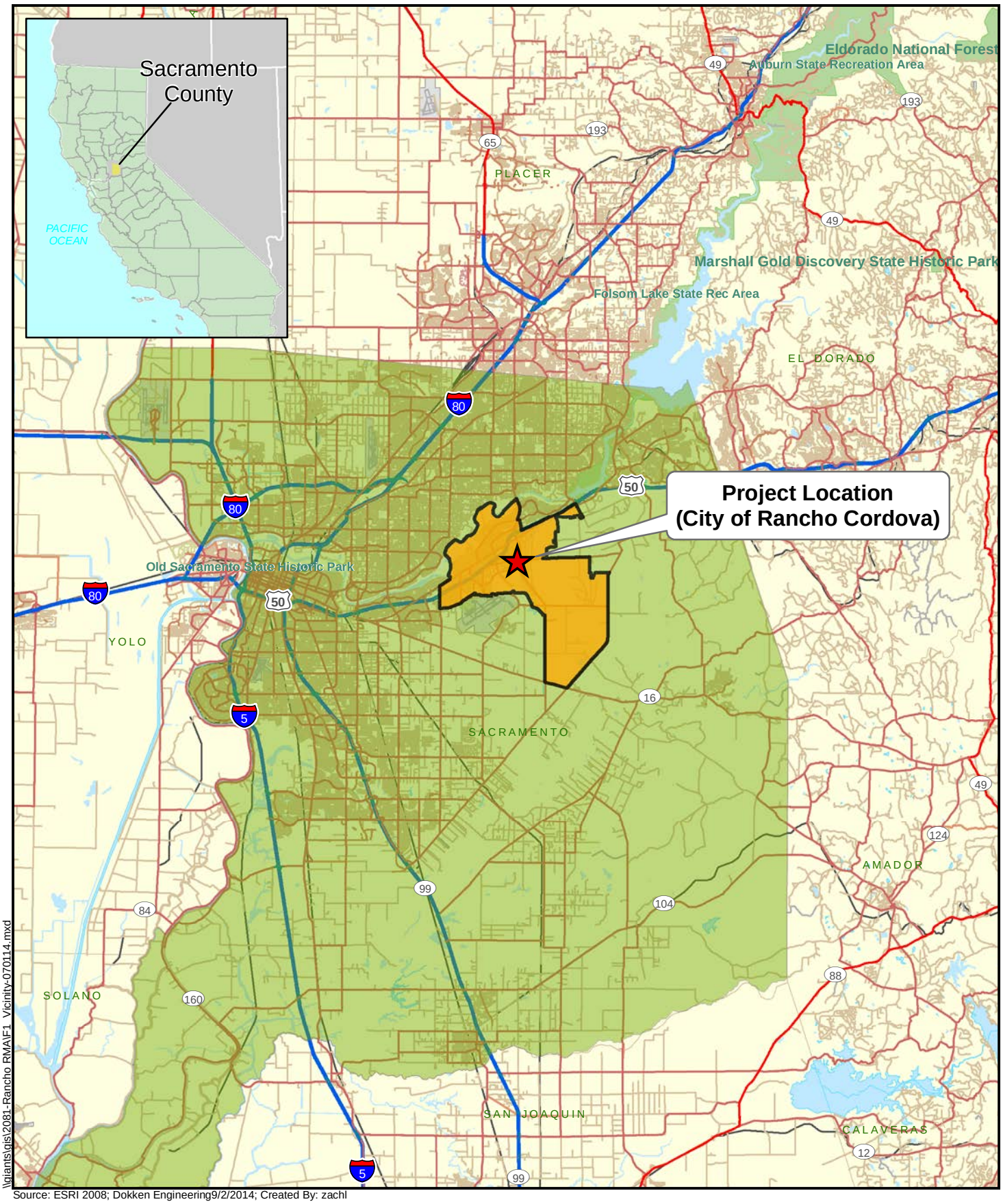
The City is the project proponent for the project and is the lead agency under the California Environmental Quality Act (CEQA). The project is locally funded.

Project Location

Routine maintenance activities would take place at the two levees and improved and unimproved drainage channels and creeks throughout the City for a period of 12 years (see Figure 1 Project Vicinity and Figure 2 Project Location). The following creeks and canals are located within the City's boundaries and could require maintenance: Tributaries to the Lower American River 1 and 2, Laguna Creek 1 and 2, Morrison Creek 1 through 5, Buffalo Creek, and Cordova Creek (Dawes Canal) (see Figure 3 Project Area). In addition multiple unnamed drainage ditches, canals, drainage swales and overland relief within the City limits would undergo routine maintenance. City staff would also maintain the two levees and detention/water quality basins within City limits.

Project Purpose and Need

The need of the proposed project is to acquire a RMA with CDFW to allow the City to perform routine maintenance activities, in addition to capital improvement projects and vegetation restoration activities in areas within CDFW jurisdiction. The primary purpose of the proposed project is to maintain the design capacity of channels and other physical structures within the City limits in order to protect the City's investments and to prevent the loss of life and property.

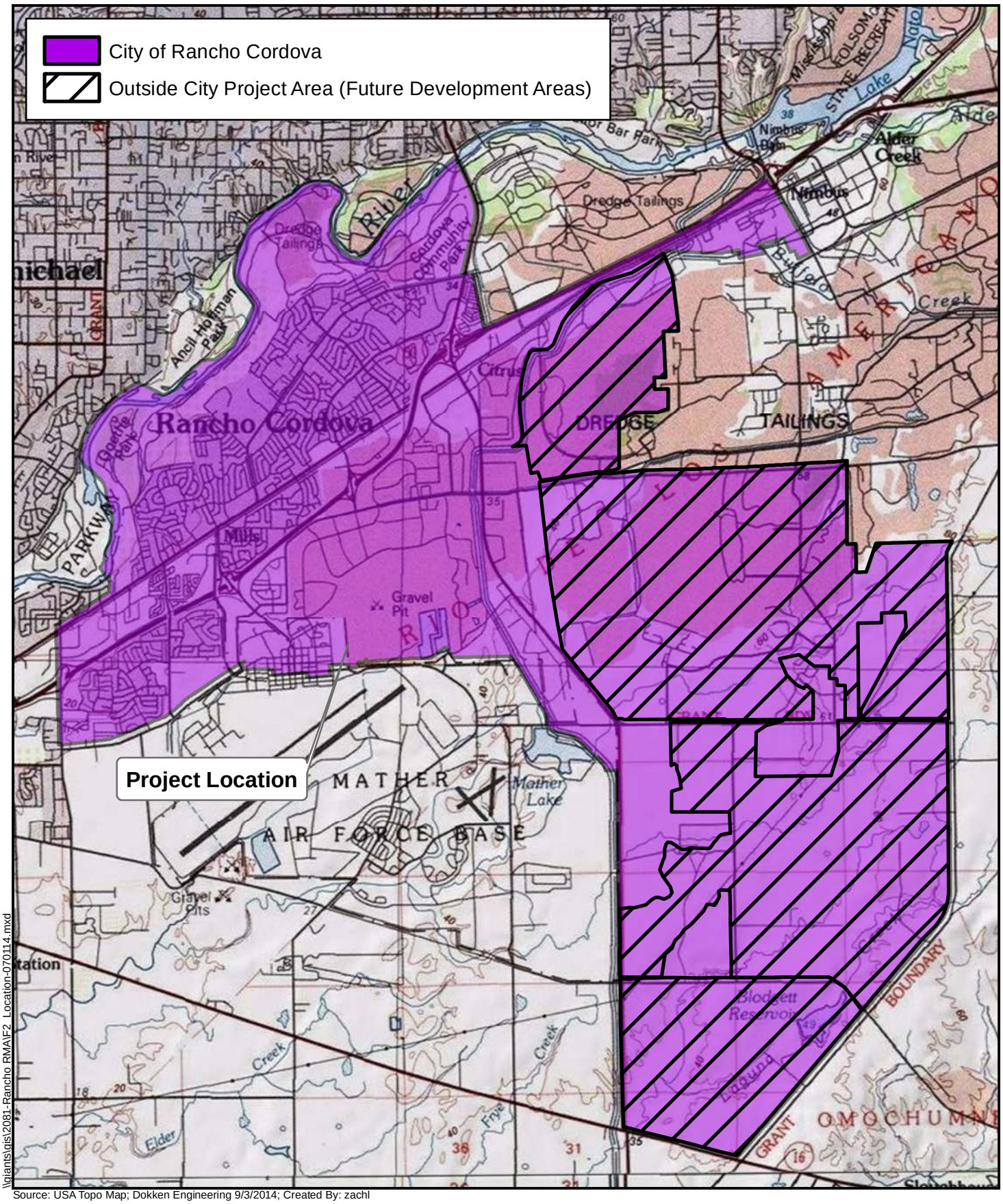


\\gtants\gis\2081-Rancho RMAIF1 Vicinity-070114.mxd

Source: ESRI 2008; Dokken Engineering9/2/2014; Created By: zachl

0 5 10 Miles

FIGURE 1
Project Vicinity
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California



Source: USA Topo Map; Dokken Engineering 9/3/2014; Created By: zachl

0 1 2 3 4 Miles

FIGURE 2
Project Location
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

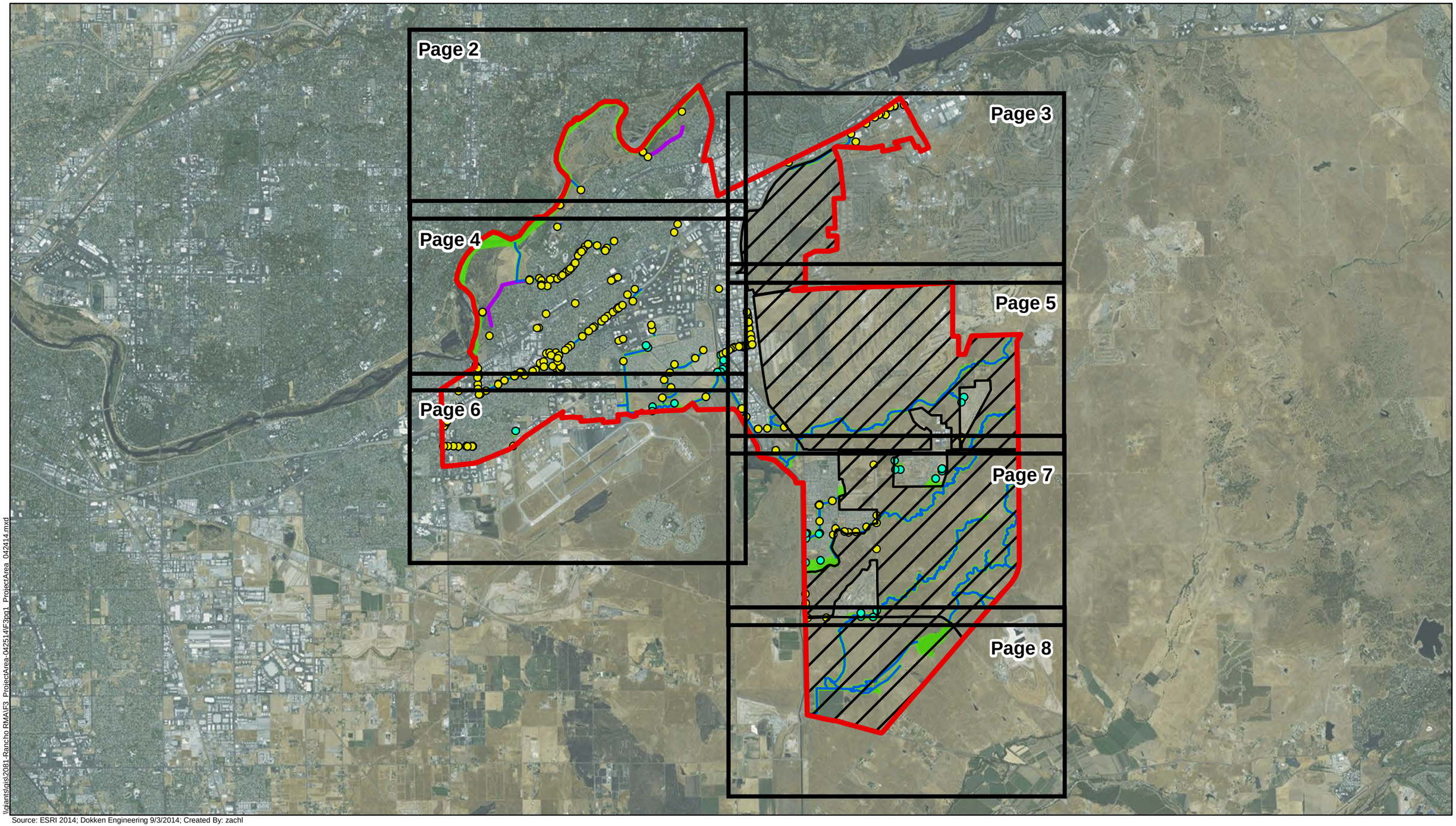
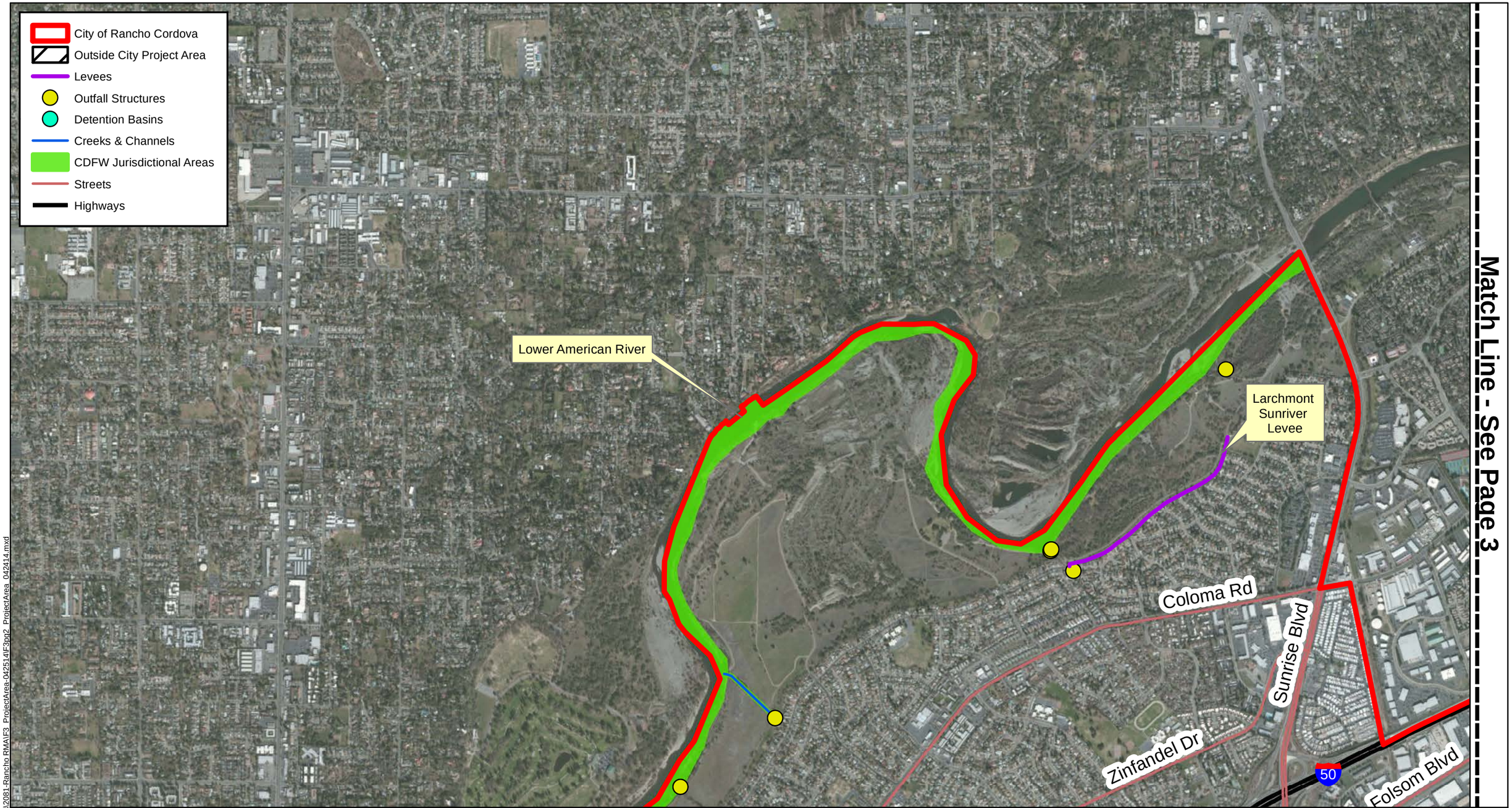


FIGURE 3
Page 1 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California



\\plants\gis\2081-Rancho RM4\F3_ProjectArea-042514\F3pg2_ProjectArea_042414.mxd

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

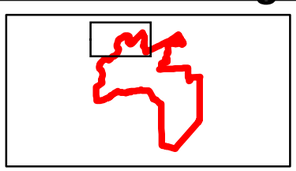
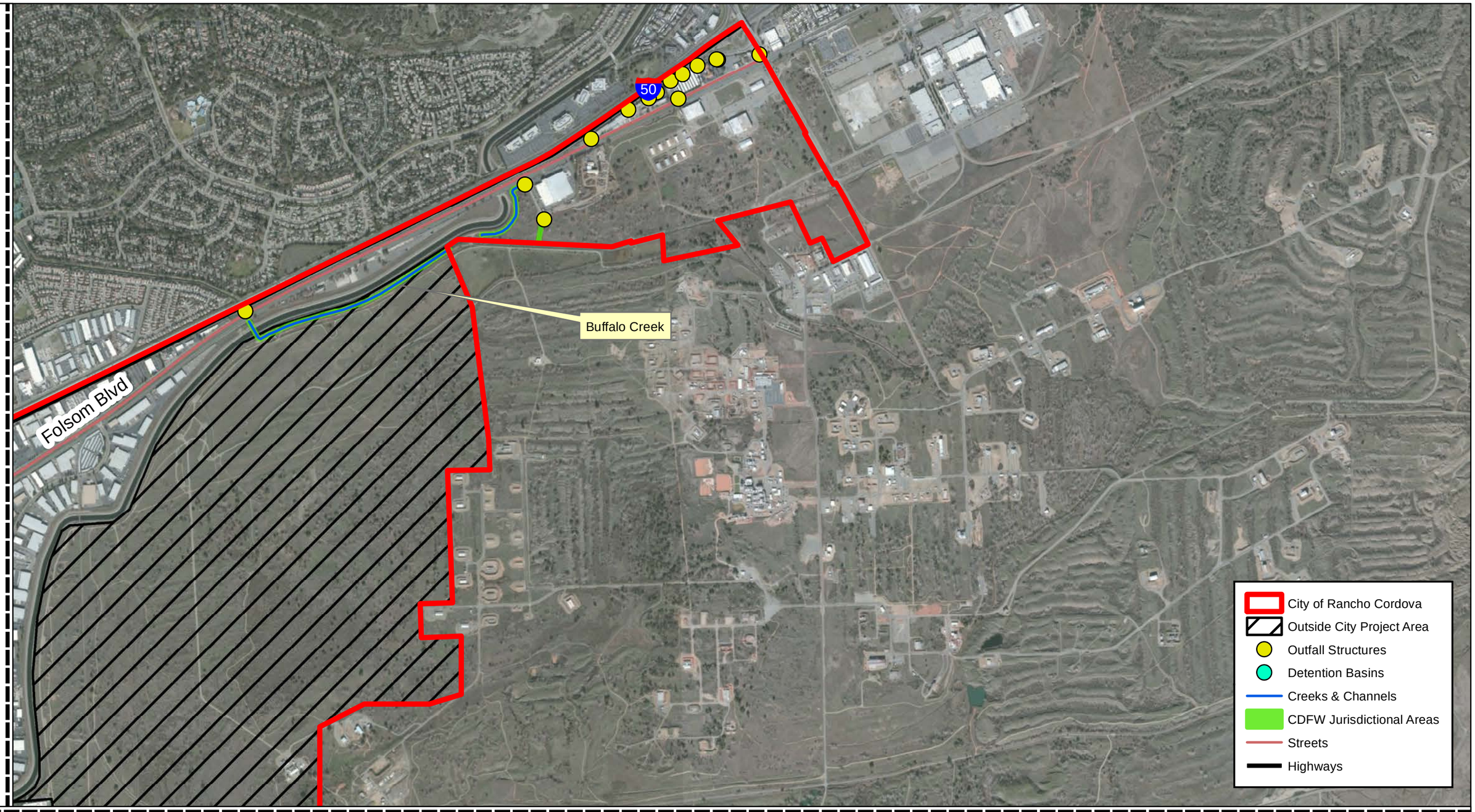


FIGURE 3
Page 2 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Match Line - See Page 2 and 4



Match Line - See Page 5

\\giants\gis\2081-Rancho RMA\F3_ProjectArea-042514\F3pg3_ProjectArea_042414.mxd

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

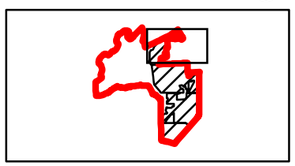
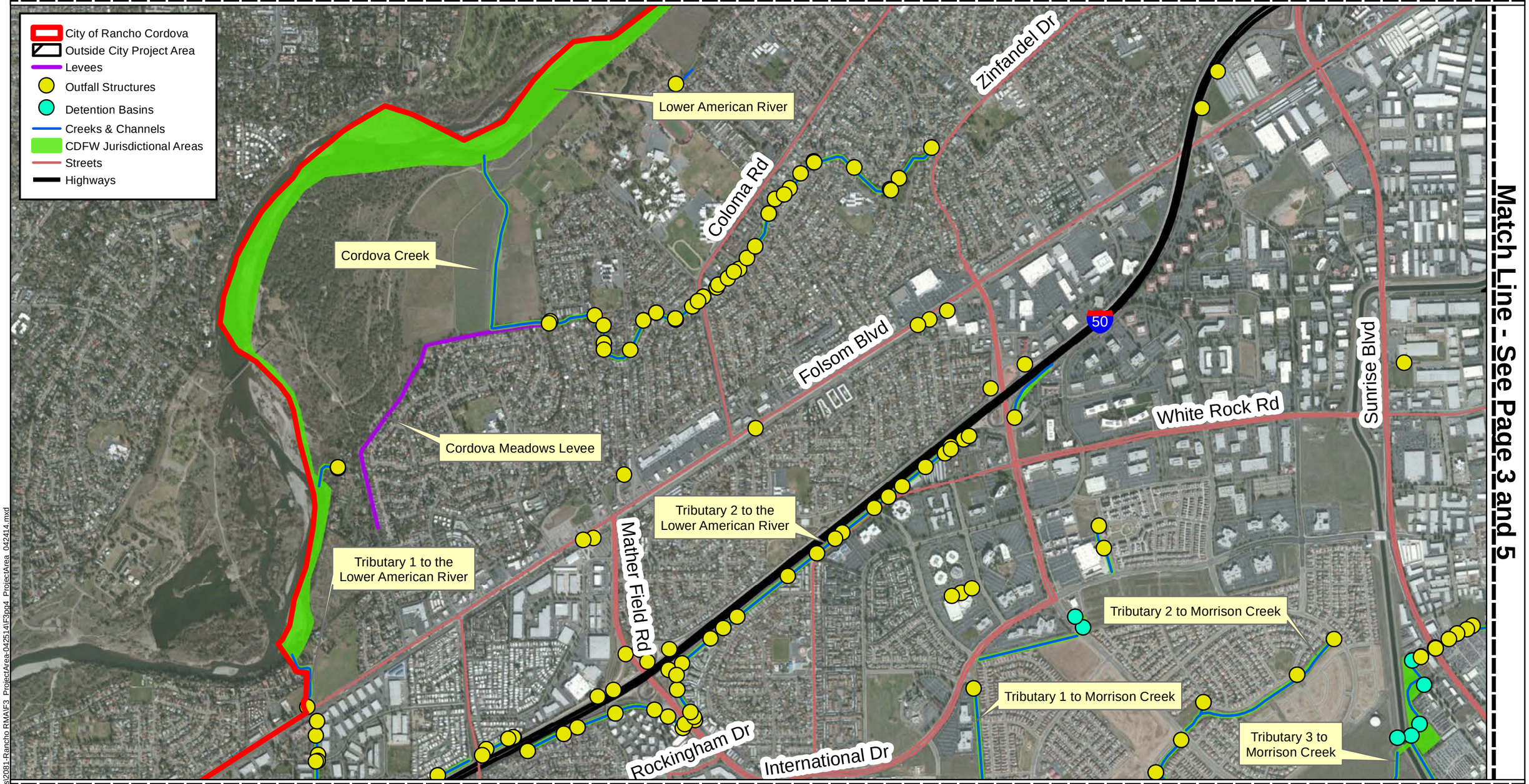


FIGURE 3
Page 3 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Match Line - See Page 2



Match Line - See Page 3 and 5

Match Line - See Page 6

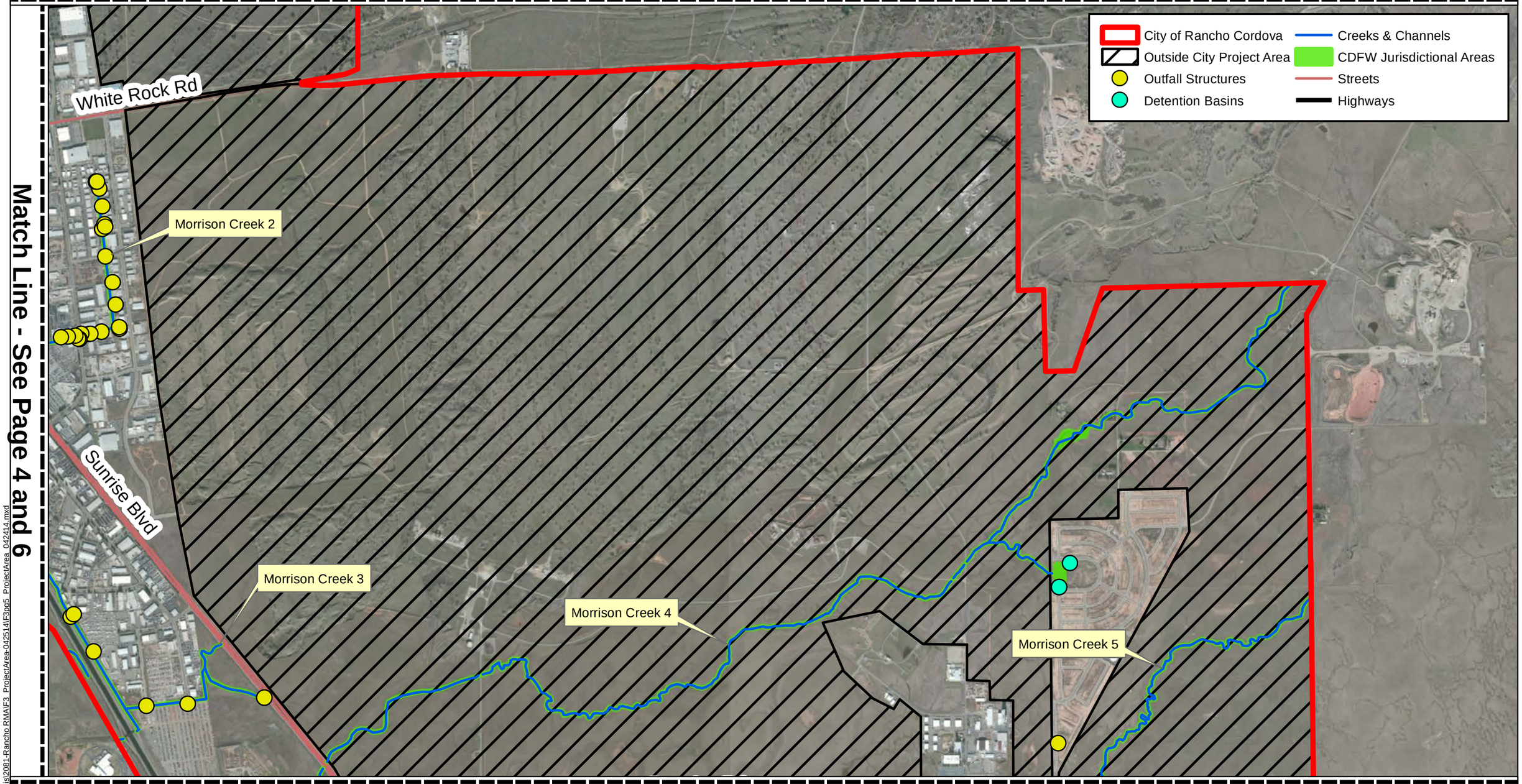
\\giantsrig\2081-Rancho RMA\F3 ProjectArea-042514\F3pg4 ProjectArea 042414.mxd

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

FIGURE 4
Page 4 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Match Line - See Page 3



Match Line - See Page 4 and 6

\\dianlsig\2081-Rancho RMA\F3 ProjectArea-042514\F3pg5_ProjectArea_042414.mxd

Match Line - See Page 7

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

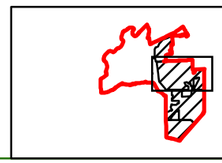


FIGURE 3
Page 5 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Match Line - See Page 4

Match Line - See Page 7

\\gisants\gis\2081-Rancho RMA\F3_ProjectArea-042514\F3pp6_ProjectArea_042414.mxd

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

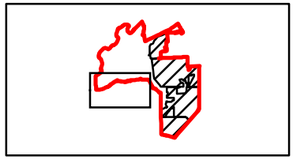


FIGURE 3
Page 6 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Match Line - See Page 5

Match Line - See Page 6

Douglas Rd

Morrison Creek 3

Morrison Creek 4

Morrison Creek 5

Sunrise Blvd

Laguna Creek 1

Laguna Creek 2

City of Rancho Cordova
Outside City Project Area
Outfall Structures
Detention Basins
Creeks & Channels
CDFW Jurisdictional Areas
Streets
Highways

Match Line - See Page 8

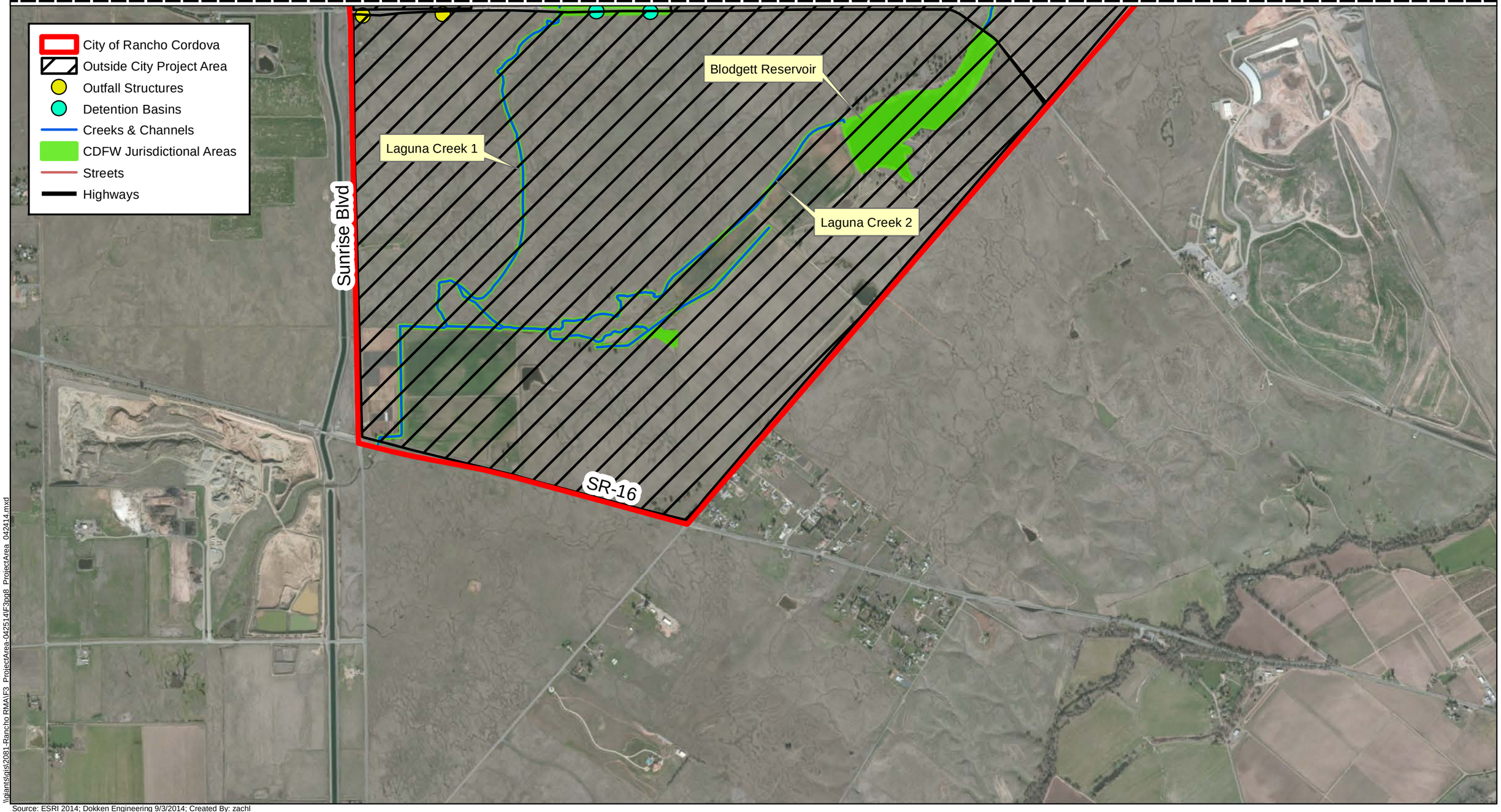
\\giants\gis2081-Rancho RMAIF3_ProjectArea-042514\F3pg7_ProjectArea_042414.mxd

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

FIGURE 3
Page 7 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Match Line - See Page 7



\\giants\sjs2081-Rancho RM\AIF3_ProjectArea-042514\F3pg8_ProjectArea_042414.mxd

Source: ESRI 2014; Dokken Engineering 9/3/2014; Created By: zachl

0 0.25 0.5 0.75 1 Miles

FIGURE 3
Page 8 of 8
Project Area
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Project Description

The City of Rancho Cordova proposes to enter into a 12-year Streambed Alteration Agreement with the CDFW for the City to conduct routine maintenance activities, capital improvement projects, and vegetation restoration activities in jurisdictional improved and unimproved channels and drainage facilities, including those associated with capital improvements to the stormwater and roadway systems. For the purposes of this RMA, the City considers the limits of the CDFW jurisdiction to extend from the center of channel to the edge of riparian zones along creeks and the outer edges of wetland vegetation within basins and wetlands. The City anticipates completing approximately 5 to 30 maintenance projects a year. Any given project may take between 1 day and 12 months to complete. Maintenance activities would include the following (see Figure 4 Typical Cross Sections, found after the Project Description):

Levee Maintenance

The City would provide any necessary maintenance to the Larchmont Sunriver Levee and Cordova Meadows Levee in order to ensure levee functionality and operation. Activities anticipated for levee maintenance include vegetation removal, rodent control, and repair of any damaged segments.

Trail Maintenance

The City would provide any necessary maintenance to access roads and existing City trails along creek corridors and at trail creek crossings. The City anticipates vegetation control equipment to largely be comprised of chainsaws and other hand tools, with the occasional use of a backhoe. The City would remove debris, woody and herbaceous vegetation, trees which are in clear danger of falling in or across a trail/creek crossing, trim obstructing branches and downed trees, and perform general maintenance on trail facilities such as pedestrian bridges, culverts, slope stabilization, erosion control, etc. Vegetation would be maintained to ensure a minimum clearance of 5 feet from the edge of trail. Exact methods and locations of trail maintenance would be submitted to the CDFW for final approval through the Verification Request Forms (VRFs).

New Trails and Access Roads

The City may construct new trails, including Class 1 bicycle trails, along creek and canal corridors and may construct new maintenance/access roads as needed.

Channel Alignment Maintenance

At locations where property and City facilities are at risk, the City would maintain the current channel alignments to prevent creeks and drainages from altering course during large storm events. Activities may include the strategic addition of rock slope protection armoring, removal of sediment, etc. to the channel in order to maintain the current creek alignment. Exact methods and locations of channel alignment maintenance activities would be submitted to the CDFW for final approval through the VRFs.

Conversion of Concrete-Lined Channels

The City may undertake projects to convert existing concrete-lined channels to a more natural state. Exact methods and locations for these projects would be submitted to the CDFW for final approval through the VRFs.

Debris or Obstruction Removal

The City would remove debris, trash, rubbish, beaver dams, flood-deposited woody and herbaceous

vegetation, downed trees, dead trees which are in clear danger of falling in or across a channel, branches, and associated debris that substantially obstruct water flow, reduce channel capacity, cause pump damage, accelerate erosion, damage concrete box culverts, metal culverts, or bridge structures, or could do so. In particular, beaver dam removal is a frequent and important obstruction removal project for the City. The City proposes debris and obstruction removal in creeks, channels, detention basins, dams, boat ramps, docks, and trails. Exact methods and locations of debris or obstruction removal activities would be submitted to the CDFW for final approval through the VRFs. Debris or obstruction removal may be followed by re-vegetation efforts.

Removal or Replacement of Facilities

The City would remove or replace culverts, inlets, manholes, above ground utilities, or other facilities within areas of CDFW jurisdiction. Removal or replacement of facilities may require the trimming or removal of vegetation, displacement of sediments and/or placement of materials within creeks, channels and basins, man hole lining, flushing, vactoring, Closed Circuit Television (CCTV) inspections, horizontal directional drilling, jack & bore, and open trenching. Exact methods and locations of removal or replacement activities would be submitted to the CDFW for final approval through the VRFs.

Silt, Sand, or Sediment Removal

The City would displace or remove (under dry conditions) silt, sand, gravel, or sediment in the immediate vicinity (i.e., within 250 feet) of natural or man-made structures and facilities, both lined and unlined, that could substantially obstruct water flow, reduce channel capacity, accelerate erosion, damage concrete box culverts, metal culverts, bridge structures or other facilities. Such structures or facilities could include outfalls, bridges, culverts, beaver dams, basins, and the invert of creeks and channels. Exact methods and locations of sediment removal activities would be submitted to the CDFW for final approval through the VRFs. Removal of silt, sand, or other sediments may be followed by re-vegetation efforts.

Vegetation Control in Channels

The City would cut, mow, disc, or bulldoze on grasses, shrubs, and woody growth to maintain the designed capacity of floodways. However, the City anticipates vegetation control equipment to largely be comprised of chainsaws and other hand tools, with the occasional use of a backhoe. The City would cut, or mow weeds, grasses, shrubs, and woody growth to the extent necessary to conduct safety inspections. The City would cut, trim, or remove the lower branches of large trees to facilitate site inspections and maintain channel capacity. The City would remove dead trees, dying trees, and new trees less than 4-inches diameter at breast height (dbh) (diameter measured 4.5 feet above ground level) to maintain channel capacity and prevent erosion. The City would remove non-native vegetation [e.g., arundo (*Arundo donax*) (a.k.a. "giant reed" or "false bamboo"), periwinkle (*Vinca major*), English ivy **(***Hedera helix*), Algerian ivy (*Hedera caneriensis*), Himalayan blackberry (*Rubus discolor*), Chinese tallow (*Triadica sebifera*), red sesbania (*Sesbania punicea*), Spanish broom (*Spartium junceum*), scotch broom (*Cytisus scoparius*), tree-of-heaven (*Ailanthus altissima*), black locust (*Robinia pseudoacacia*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), pampas grass (*Cortaderia selloana*), green fountain grass (*Pennisetum setaceum*), eucalyptus (*Eucalyptus* spp.), saltcedar (*Tamarix* spp.), Russian olive (*Elaeagnus angustifolia*), water hyacinth (*Eichhornia crassipes*), edible fig (*Ficus carica*), etc.] to maintain channel capacity and improve native habitat. The City would not remove sensitive plant populations without CDFW approval. In addition, the City would not remove or trim any elderberry shrubs prior to consultation

with the United States Fish and Wildlife Service (USFWS). Exact methods and locations of vegetation removal activities would be submitted to the CDFW for final approval through the VRFs. The City may partner with local nonprofits and businesses to perform creek/canal restoration activities through the establishment of an Adopt-a-Creek program. Creek restoration activities would consist of the vegetation control and restoration activities described here.

Repair of Previous Erosion Control Work

The City would repair previous erosion control work, including, but not limited to, failed rock slope protection, sacked concrete, or gabion sections. Such work would not extend beyond 100 linear feet of the existing revetted area. In some areas these activities and other routine maintenance activities may require fill near outfalls, bridges, culverts, basins, and the invert of creeks and channels. Types of fill materials would be riprap, soil, gravel material, or aggregate base and would come from commercial sources in the local area. Materials would be placed with equipment such as an excavator, backhoe, dump truck, bobcat, skip loader, front loader or other small construction equipment. Exact methods, locations and volumes of erosion repair activities would be submitted to the CDFW for final approval through the VRFs.

Water Diversions

To minimize sedimentary effects to the channels and waterways, water diversions would be utilized as necessary. Dewatering is anticipated to occur at some locations. Diversion and dewatering plans specific to the individual routine maintenance would be submitted to the CDFW for final approval through the VRFs.

Minor Erosion Control Work

The City would slope, place earthen fill, install rocks and gabions, apply gunite, or take other necessary measures to control erosion on previously unrevetted areas. Such work would not exceed 100 linear feet in length of the unrevetted area. Containment measures would be used to prevent deleterious material from entering state waters and avoid adverse impacts to fish and wildlife resources. Exact methods and locations of minor erosion control activities would be submitted to the CDFW for final approval through the VRFs.

Bridge Washing, Graffiti Removal and Painting

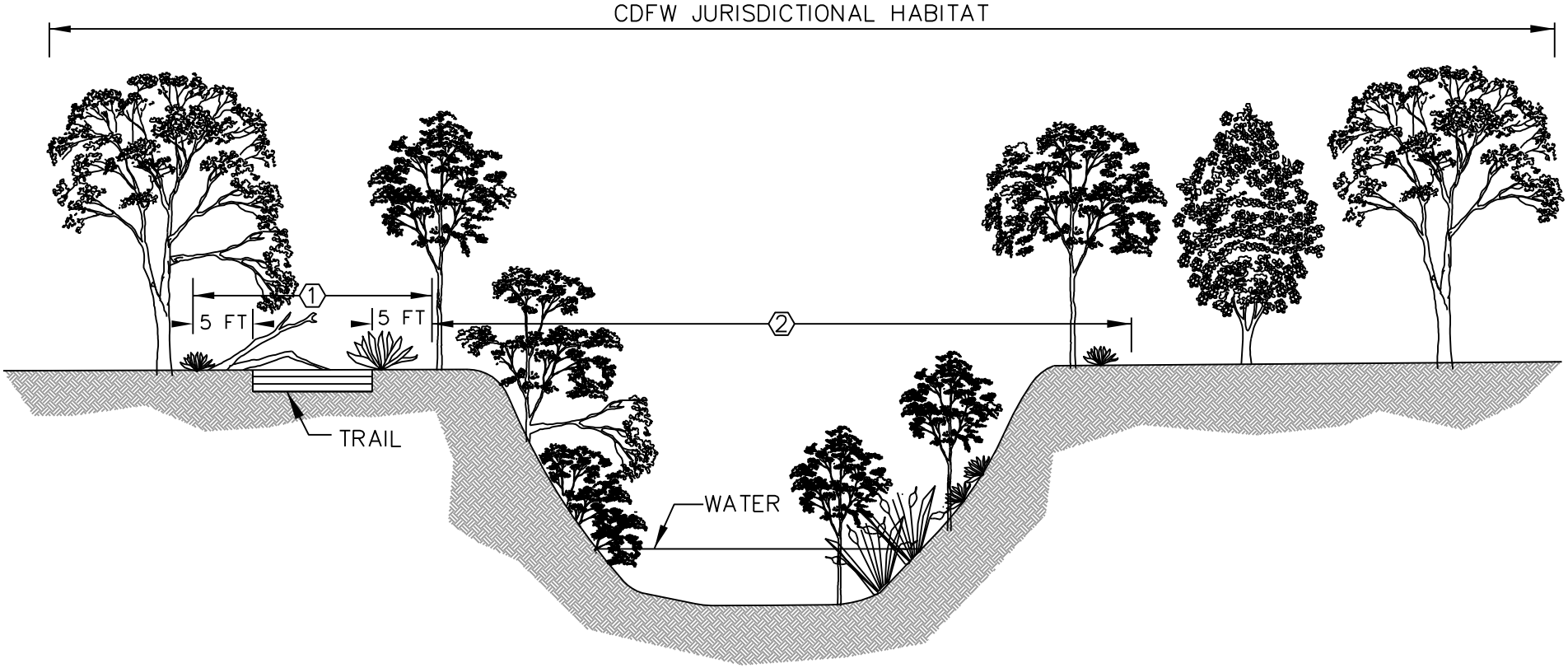
When work is required to occur within creek channels, the City would clean, wash, and paint structures within a stream zone. Containment measures would be used to prevent deleterious material from entering state waters and avoid adverse impacts to fish and wildlife resources.

Geotechnical Sampling

The City would obtain core samples and conduct other minor geotechnical testing in support of these maintenance activities, provided such work does not adversely affect fish and wildlife resources. The CDFW Agreement would not apply to emergency work the City must perform to protect life or property as described in Fish and Game Code section 1610.

Water Quality Testing

The City may obtain water samples to conduct water quality testing. Water quality testing may also be performed as an educational activity in the community to promote awareness of the importance of creek/waterway health.



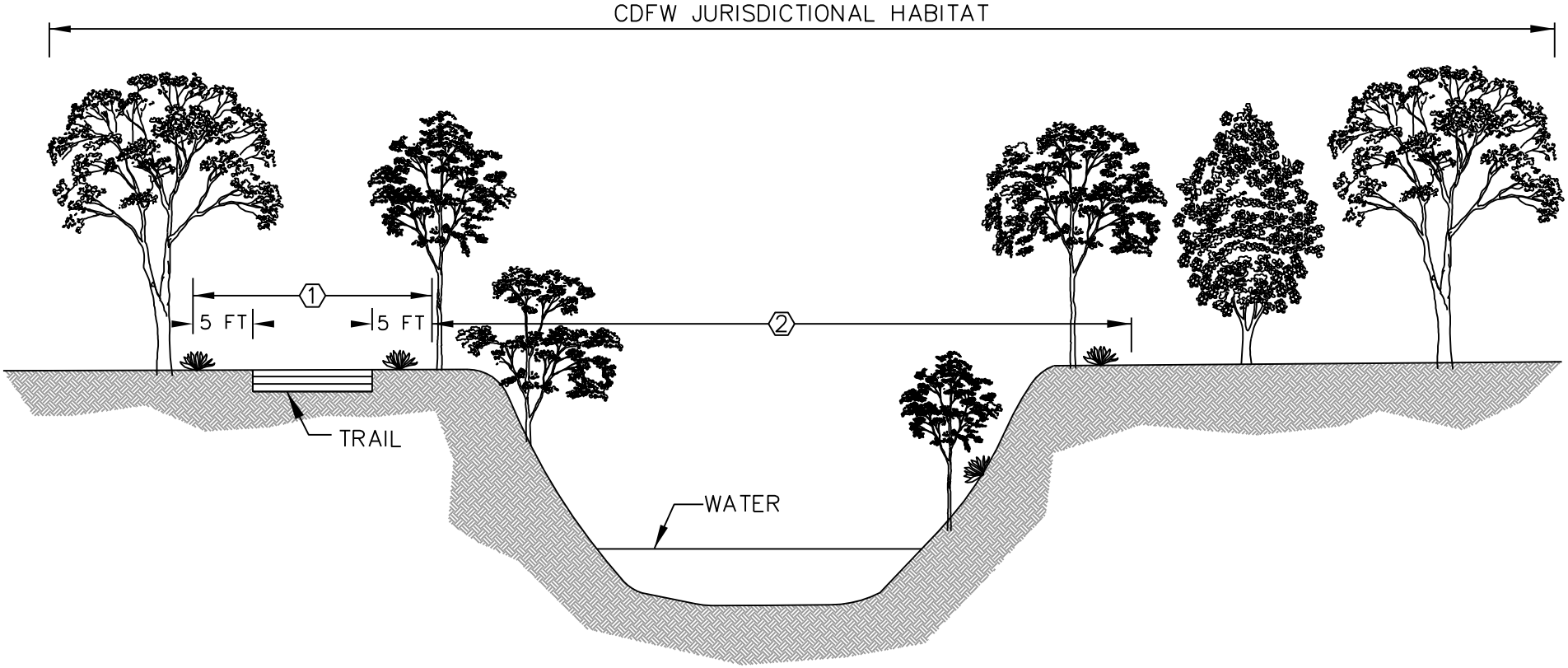
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

⟨1⟩ TRAIL MAINTENANCE

⟨2⟩ VEGETATION CONTROL IN CHANNELS

FIGURE 4 - 1A
Typical Cross Sections
Pre-Trail Maintenance and Vegetation Control in Channels
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



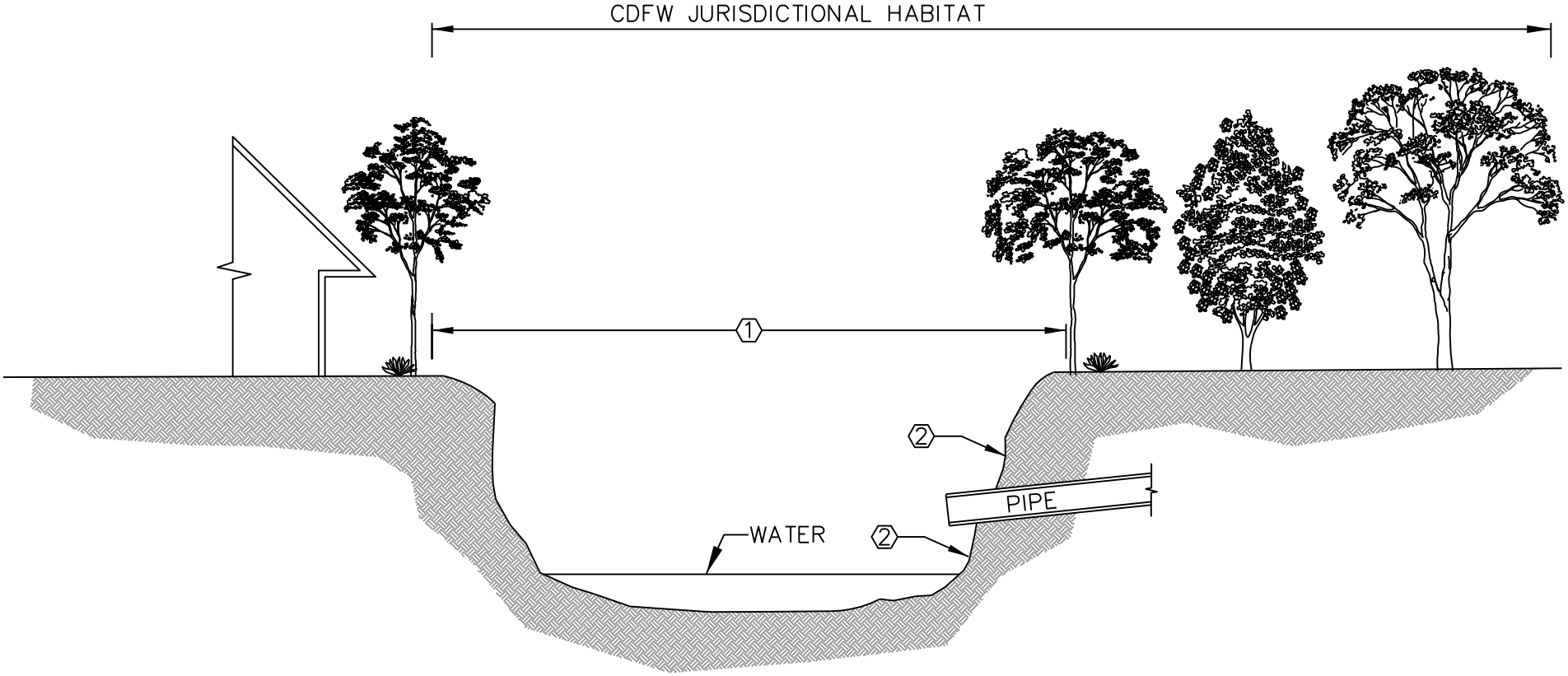
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

⟨1⟩ TRAIL MAINTENANCE

⟨2⟩ VEGETATION CONTROL IN CHANNELS

FIGURE 4 - 1B
Typical Cross Sections
Post-Trail Maintenance and Vegetation Control in Channels
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



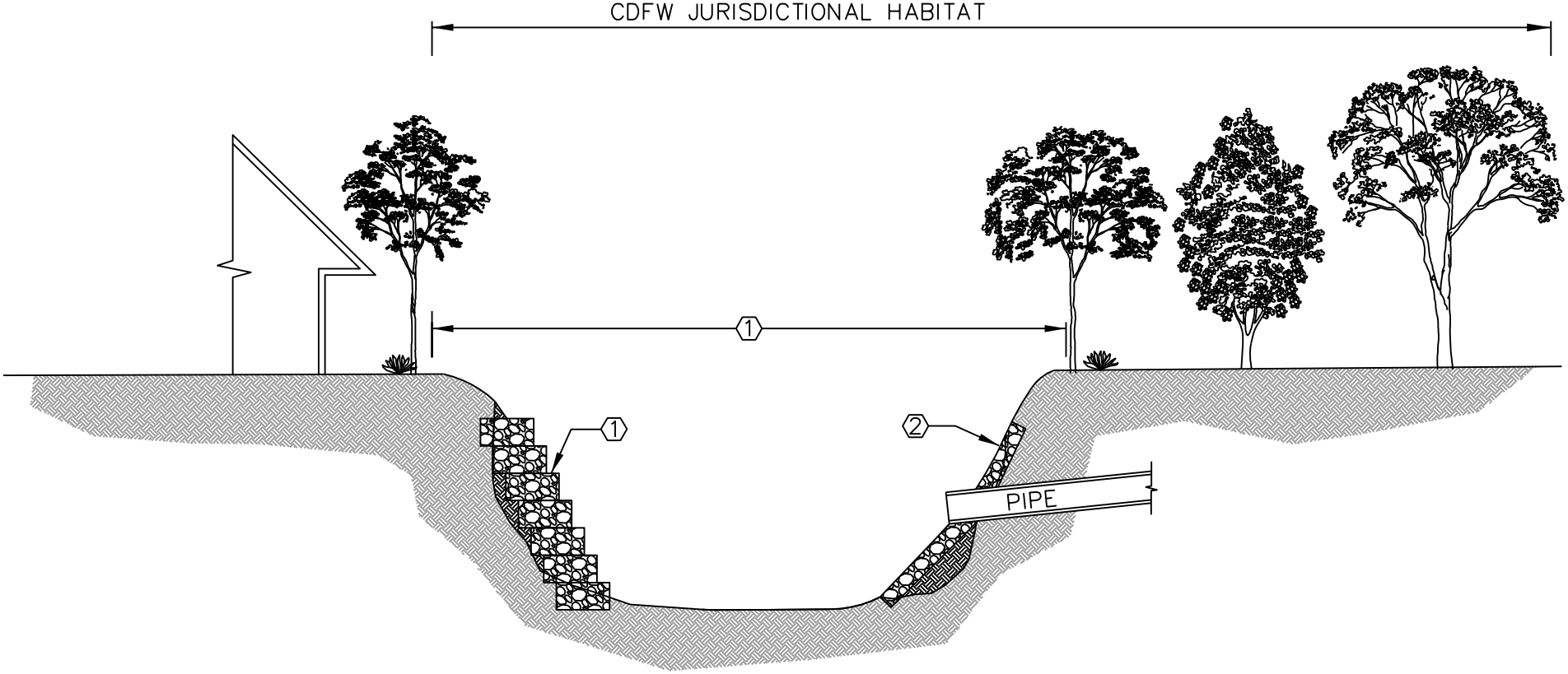
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1 CHANNEL ALIGNMENT MAINTENANCE

2 MINOR EROSION CONTROL WORK

FIGURE 4 - 2A
Typical Cross Sections
Pre-Channel Alignment Maintenance and Erosion Control
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



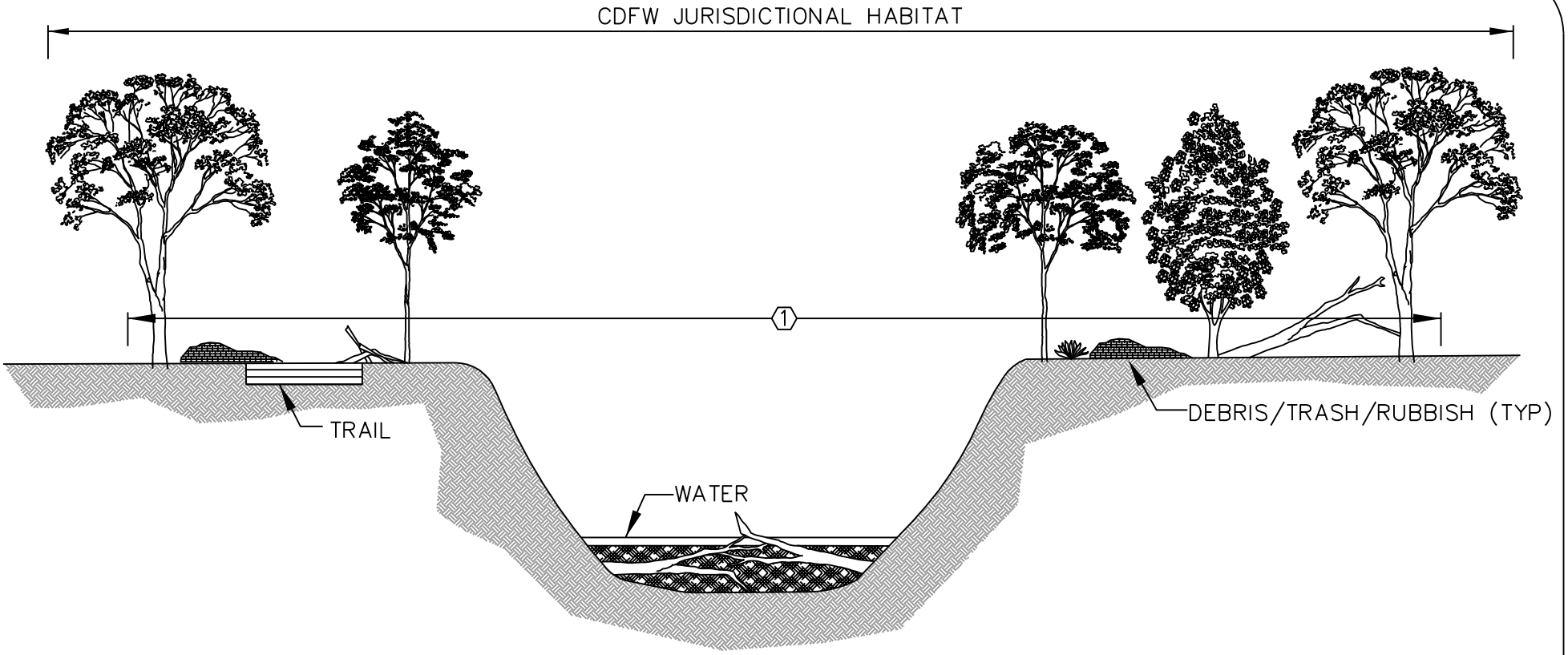
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1 CHANNEL ALIGNMENT MAINTENANCE

2 MINOR EROSION CONTROL WORK

FIGURE 4 - 2B
Typical Cross Sections
'ost-Channel Alignment Maintenance and Erosion Control
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California

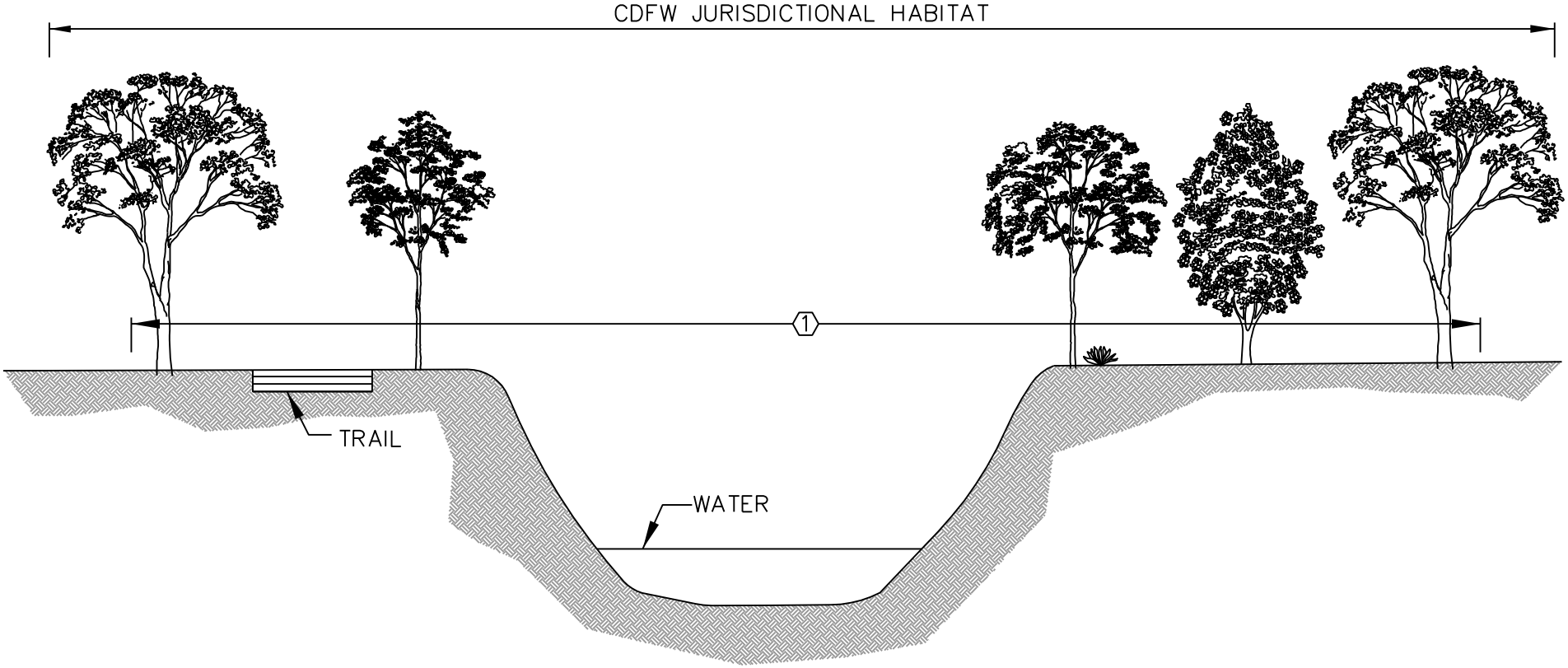


TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1 DEBRIS OR OBSTRUCTION REMOVAL

FIGURE 4 - 3A
Typical Cross Sections
Pre-Debris and Obstruction Removal
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California

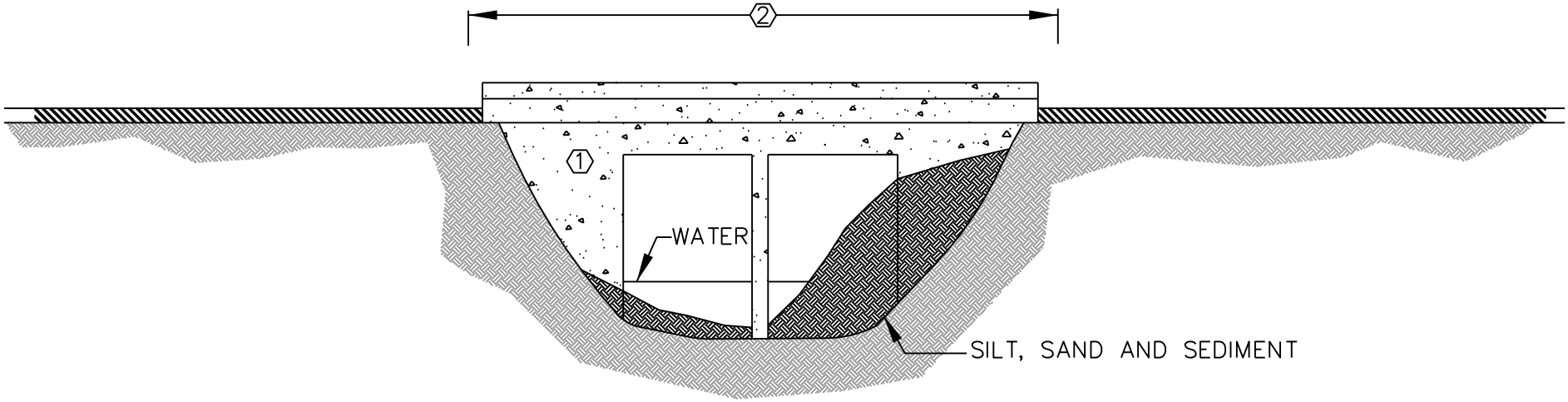


TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1 DEBRIS OR OBSTRUCTION REMOVAL

FIGURE 4 - 3B
Typical Cross Sections
Post-Debris and Obstruction Removal
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



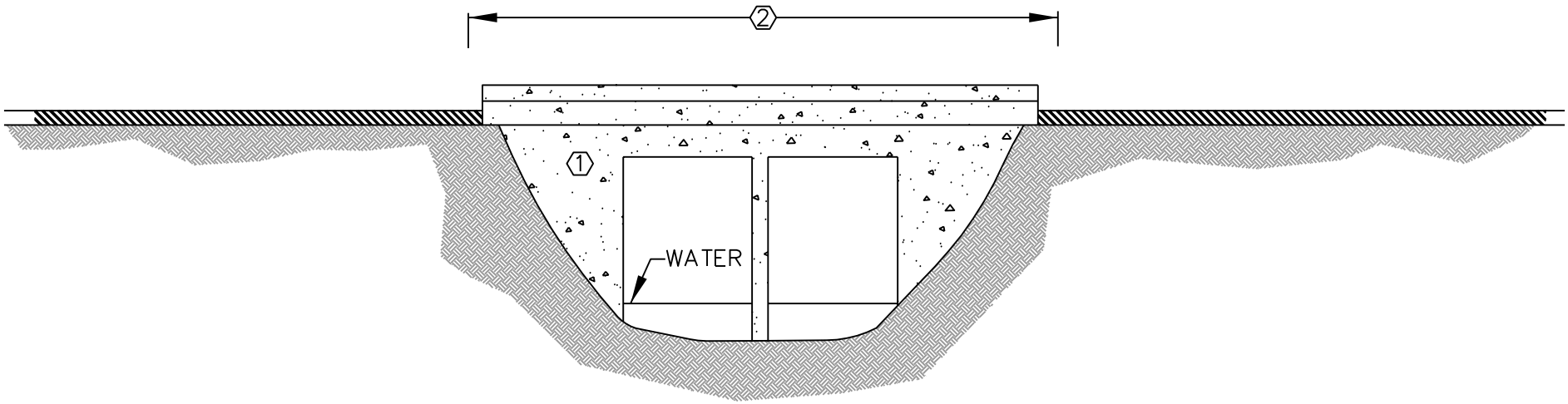
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1 BRIDGE WASHING AND PAINTING

2 SILT, SAND, OR SEDIMENT REMOVAL

FIGURE 4 - 4A
Typical Cross Sections
Pre-Bridge Washing & Painting, Silt, Sand or Sediment Removal
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



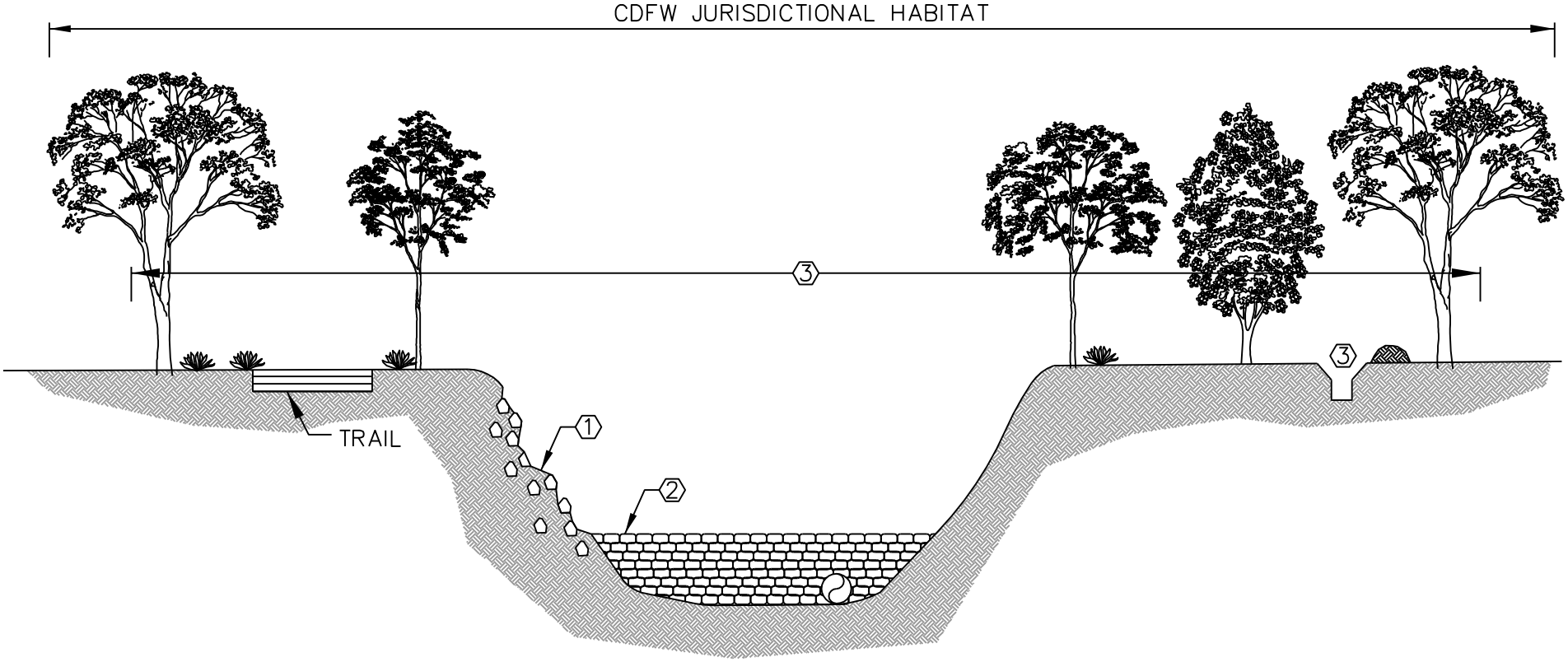
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1 BRIDGE WASHING AND PAINTING

2 SILT, SAND, OR SEDIMENT REMOVAL

FIGURE 4 - 4B
Typical Cross Sections
Post-Bridge Washing & Painting, Silt, Sand or Sediment Removal
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California

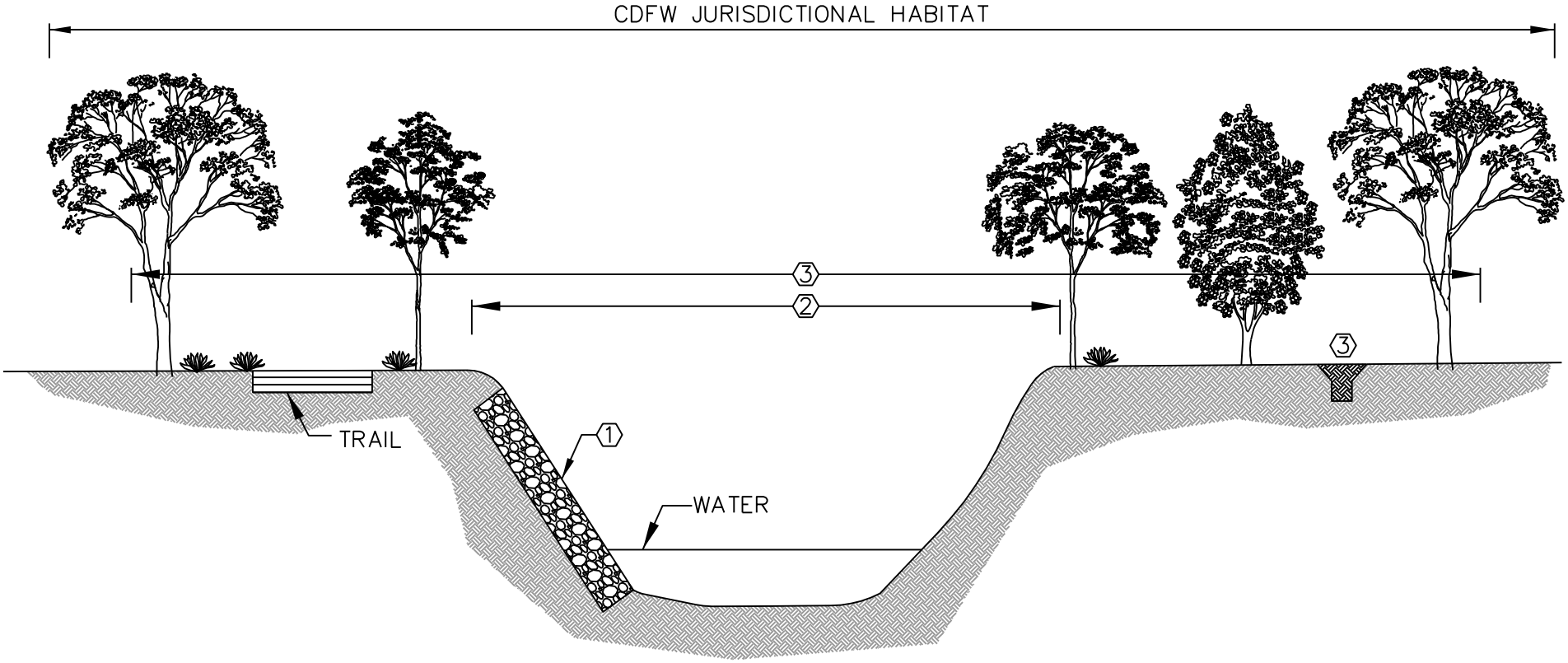


TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1. REPAIR OF PREVIOUS EROSION CONTROL WORK
2. WATER DIVERSION
3. GEOTECHNICAL SAMPLING

FIGURE 4 - 5A
Typical Cross Sections
Pre-Repair of Previous Erosion Control Work, Water Diversion & Geotechnical Sampling
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California

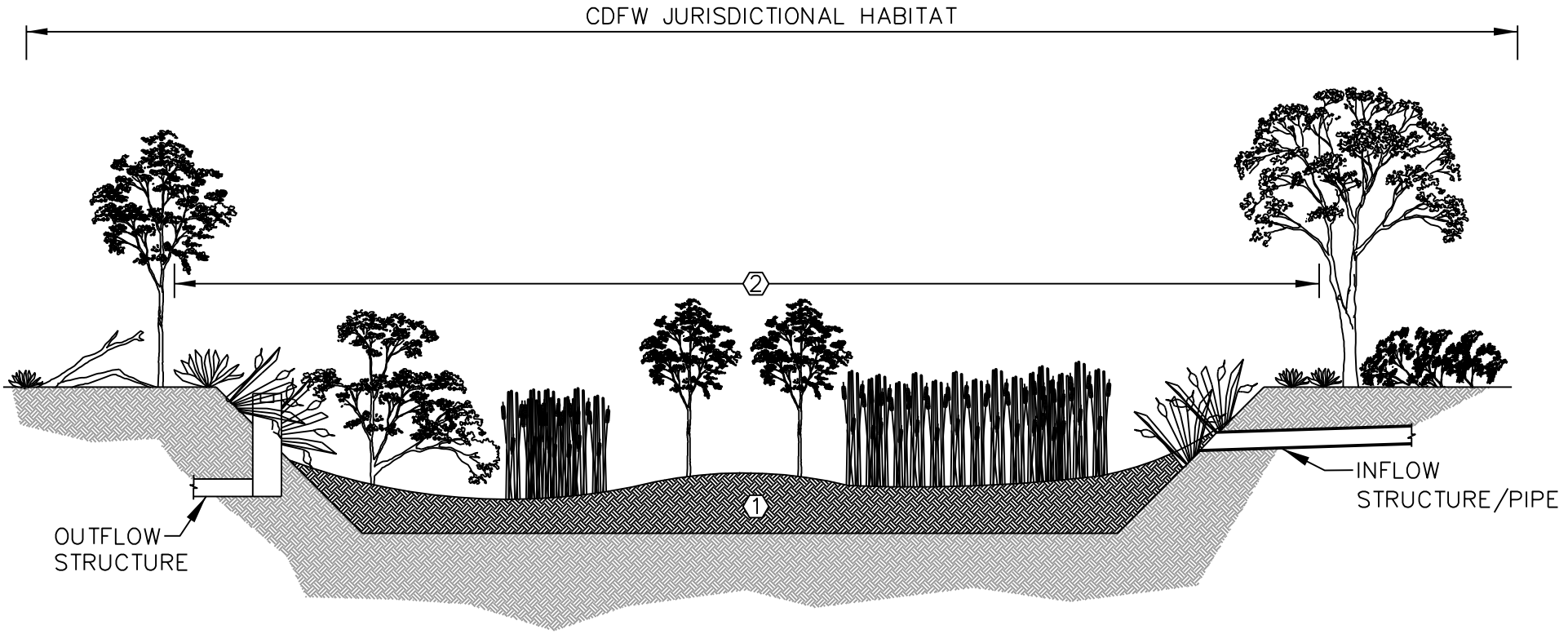


TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

1. REPAIR OF PREVIOUS EROSION CONTROL WORK
2. WATER DIVERSION
3. GEOTECHNICAL SAMPLING

FIGURE 4 - 5B
Typical Cross Sections
Post-Repair of Previous Erosion Control Work, Water Diversion & Geotechnical Sampling
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



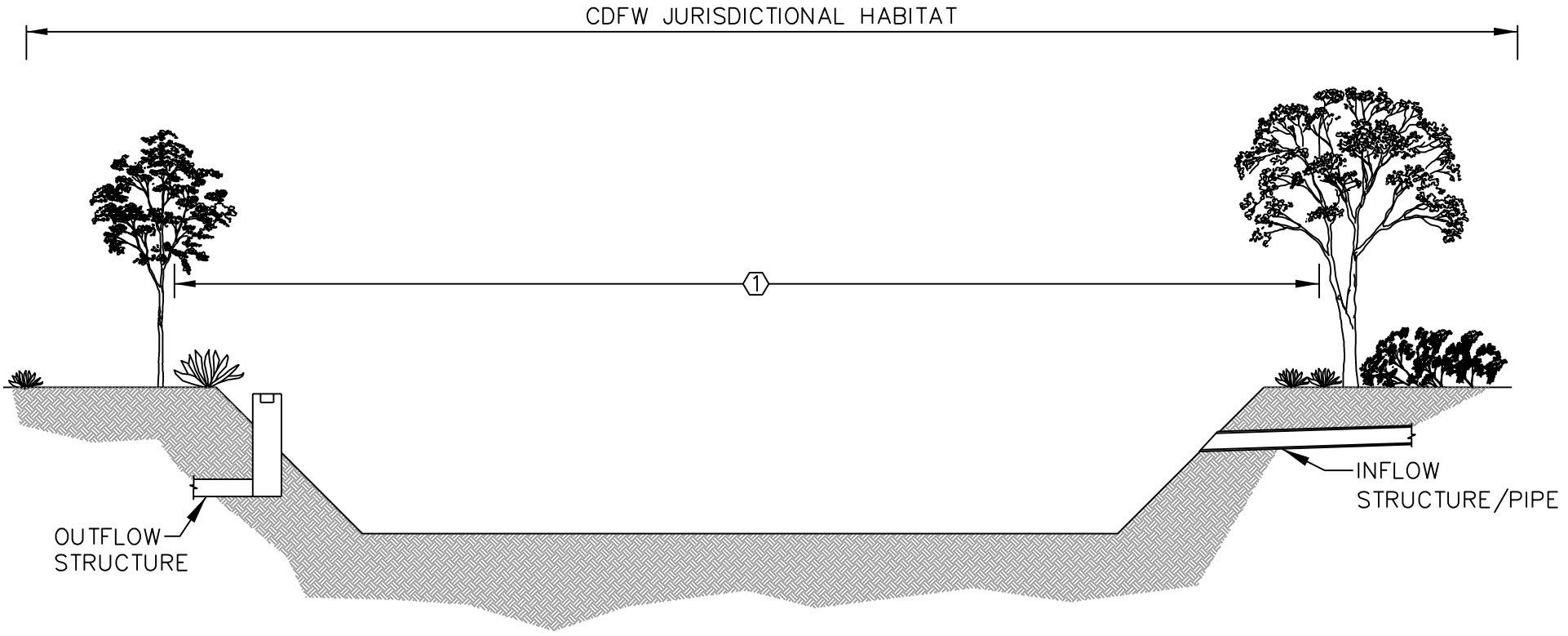
TYPICAL BASIN SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

⟨1⟩ SEDIMENT ACCUMULATION

⟨2⟩ VEGETATION CONTROL IN BASINS

FIGURE 4 - 6A
Typical Cross Sections
Pre-Basin Maintenance and Restoration
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California



TYPICAL BASIN SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

⟨1⟩ SEDIMENT ACCUMULATION AND VEGETATION CONTROL IN BASINS

FIGURE 4 - 6B
Typical Cross Sections
Post-Basin Maintenance and Restoration
Routine Maintenance of Stream Channels and Drainage Facilities
City of Folsom, Sacramento County, California

Anticipated Fill Quantities Per Project

In some areas the maintenance activities listed above would require fill near outfalls, bridges, culverts, basins, and the invert of creeks and channels. Types of fill material is anticipated to include riprap, soil, gravel material, aggregate base all from commercial sources in the local area. Fill material would be placed by excavator, backhoe, dump truck, bobcat, skip loader, front loader or other small construction equipment. The following calculations are estimates intended to provide quantities of area and volume that would be placed over a 12-year period. Final quantities for routine maintenance activities would be submitted to the CDFW through the VRFs:

Outfall Fills
Typical Small Project Area = (4 feet wide by 4 feet long) =16 Square Feet (SF)
Typical Small Project Volume= (4 feet wide by 4 feet long by 2 feet deep)/27=1.2 Cubic Yards (CY)
Typical Large Project Area = (50 feet wide by 100 feet long) =5,000 SF
Typical Large Project Volume= (50 feet wide by 100 feet long by 4 feet deep)/27=741 CY

Bridges/Culvert Fills
Typical Small Project Area = (10 feet wide by 10 feet long) =100 SF
Typical Small Project Volume= (10 feet wide by 10 feet long by 2 feet deep)/27=7.4 CY
Typical Large Project Area = (150 feet wide by 100 feet long) =15,000 SF
Typical Large Project Volume= (150 feet wide by 100 feet long by 3 feet deep)/27=1,670 CY

Invert of Channel/Basin Fills
Typical Small Project Area = (4 feet high by 10 feet long) =40 SF
Typical Small Project Volume= (4 feet high by 10 feet long by 2 feet thick)/27=3.0 CY
Typical Large Project Area = (20 feet high by 250 feet long) =5,000 SF
Typical Large Project Volume= (20 feet high by 250 feet long by 2 feet thick)/27=370 CY

Anticipated Sediment Removal Quantities Per Project

Routine maintenance activities would also require displacement (under dry conditions) and removal of silt and/or organic matter near outfalls, bridges, culverts, beaver dams, basins, and the invert of creeks and channels. Excavation would generally be by small excavator, back hoe or hand tools. The following quantities are estimates of sediment removal over a 12-year period and include approximate quantities of area and volume for typical small and large occurrences. Final quantities for routine maintenance activities would be submitted to the CDFW through the VRFs:

Outfall Sediment Removal
Typical Small Project Area = (4 feet wide by 4 feet long) =16 SF
Typical Small Project Small Volume= (4 feet wide by 4 feet long by 1 feet deep)/27=0.59 CY
Typical Large Project Area = (50 feet wide by 250 feet long) =12,500 SF
Typical Large Project Volume= (50 feet wide by 250 feet long by 4 feet deep)/27=1,852 CY

Bridges/Culvert Sediment Removal
Typical Small Project Area = (10 feet wide by 10 feet long) =100 SF
Typical Small Project Volume= (10 feet wide by 10 feet long by 1 feet deep)/27=3.7 CY

Typical Large Project Area = (150 feet wide by 250 feet long) =37,500 SF
Typical Large Project Volume= (150 feet wide by 250 feet long by 4 feet deep)/27=5,555.6 CY

Beaver dam Sediment Removal
Notch in Dam Area= (4 feet wide by 4 feet long) = 16 SF
Notch in Dam= (4 feet wide by 4 feet long by 3 feet deep)/27=1.8 CY
Small Downstream/Upstream of Notch in Dam Area= (4 feet wide by 10 feet long) = 40 SF
Small Downstream/Upstream of Notch in Dam Volume= (4 feet wide by 10 feet long by 1 feet deep)/ 27 = 1.5 CY
Large Downstream/Upstream of Notch in Dam Area= (20 feet wide by 250 feet long) = 5,000 SF
Large Downstream/Upstream of Notch in Dam Volume= (20 feet wide by 250 feet long by 3 feet deep)/ 27 = 15,000 CY

Channel/Basin Sediment Removal
Typical Small Project Sediment Creek Area = (4 feet wide by 10 feet long) =40 SF
Typical Small Project Sediment Creek Volume = (4 feet wide by 10 feet long by 1 feet deep)/27=1.5 CY
Typical Large Project Sediment Creek Area = (150 feet wide by 250 feet long) =37,500 SF
Typical Large Project Sediment Creek Volume = (150 feet wide by 250 feet long by 4 feet deep)/27=150,000 CY
Typical Small Project Sediment Basin Area = (4 feet wide by 10 feet long) =40 SF
Typical Small Project Sediment Basin Volume = (4 feet wide by 10 feet long by 2 feet deep)/27=80 CY
Typical Large Project Sediment Basin Area = (250 feet wide by 250 feet long) =62,500 SF
Typical Large Project Sediment Basin Volume = (250 feet wide by 250 feet long by 4 feet deep)/27= 9,259.3 CY

CITY OF RANCHO CORDOVA

INITIAL STUDY CHECKLIST

BACKGROUND

1.	Project Title:	Routine Maintenance of Stream Channels and Drainage Facilities
2.	Lead Agency:	City of Rancho Cordova 2729 Prospect Park Drive Rancho Cordova, CA 95670
3.	Contact Person:	Britton Snipes, P.E. 2729 Prospect Park Drive Rancho Cordova, CA 95670 (916) 851-8710
4.	Project Location:	Creeks, basins and waterways of the City of Rancho Cordova.
5.	Applicant:	City of Rancho Cordova
6.	General Plan:	City of Rancho Cordova General Plan
7.	Zoning:	Miscellaneous
8.	Description of Project:	The Routine Maintenance of Stream Channels and Drainage Facilities Project consists of the engineering, regulatory compliance, operations and maintenance of the storm drain system, two levees, approximately 88 miles of natural creeks/channels, 17 miles of unlined open channel, 5 miles of concrete-lined channels, and detention/water quality basins which convey and store stormwater in the City. The completed project would provide routine maintenance of the storm drain system throughout the City.
9.	Surrounding Land Uses and Setting:	The Project occurs throughout the City, which is approximately 34 square miles, relies on two levees and approximately 88 miles of creek, 17 miles of unlined open channels and 5 miles of concrete-lined channels to convey stormwater, and manages many detention/water quality basins. The areas east of Sunrise Blvd are largely undeveloped and contain a of natural water features including creeks, ponds, wetlands, and vernal pools, which are currently unmaintained and would remain unmaintained until these areas are developed. Once these areas are developed and the water features require maintenance, they would be included in the RMA.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

This Initial Study focuses on whether the proposed project may cause significant effects on the environment. The Initial Study is also intended to assess whether any environmental effects of the project are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or by other means [15152(b)(2)] of the California Environmental Quality Act (CEQA) Guidelines. If such revisions, conditions, or other means are identified, they would be identified as mitigation measures.

This Initial Study relies on State CEQA Guidelines 15064 and 15604.4 in its determination of the significance of environmental effects. According to 15064, the findings as to whether a project may have one or more significant effects shall be based on substantial evidence in the record, and that controversy alone, without substantial evidence of a significant effect, does not trigger the need for an Environmental Impact Report (EIR).

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology /Soils
☐ Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☒ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities / Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date _____

Signature _____ Date _____

ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS - Would the project:				
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

Discussion

a. No Impact. Scenic vistas in the area include the American River and the Sierra Nevada mountain range. The proposed routine maintenance activities would not impact these scenic vistas nor would the proposed actions block existing views of the vistas.

b. No Impact. There are no designated state scenic highways in the vicinity of the proposed project (Caltrans 2014). Therefore, no impact would occur.

c. Less-than-Significant. Implementation of routine channel maintenance activities may result in the removal of trees and aquatic vegetation. The City of Rancho Cordova designed rivers, creeks, and waterways as significant visual features due to their function of a visual transition from natural scenic corridors to the City's urbanized development areas. Routine maintenance activities would not degrade or alter this visual transition; however, vegetation removal may be necessary along some of these natural scenic corridors. Vegetation removal would be limited to only what is necessary to perform the City's routine maintenance activities and would only occur within the creeks, drainage channels, detention basins or other waters. In addition, the City would maintain stream channels in such a manner that they will avoid removal of trees greater than 4 inches diameter at breast height (dbh) to the greatest extent feasible. Any removal of mature trees is anticipated to be rare and, when deemed necessary, is anticipated to occur in areas densely vegetated where the removal is unlikely to noticeably affect the visual environment. However, as a practice, the City would preferentially trim rather than remove live trees greater than 4 inches dbh. Therefore, overall, the open and natural resource conditions of these creek and drainage areas are expected to remain intact.

d. No Impact. Construction of the project would occur during daylight hours. No night work is anticipated to take place during construction of routine maintenance activities. Further, project activities would not result in any new permanent sources of light or glare.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is proposed or required; however, the following avoidance and/or minimization measures would be incorporated to minimize potential impacts:

AES-1: Vegetation removal would be limited to only what is necessary to perform the City's routine maintenance activities and would only occur within the creeks, drainage channels, detention basins or other waters.

AES-2: Maintain stream channels in such a manner that it avoids removal of trees greater than 4 inches diameter at breast height (dbh) to the greatest extent feasible. Any removal of mature trees is anticipated to occur in areas densely vegetated where the removal is unlikely to noticeably affect the visual environment. However, as a practice, the City would preferentially trim rather than remove live trees greater than 4 inches dbh.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526)?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Setting

Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland),Williamson Act Land, forest lands, or timberlands do not exist at stream channels or drainage facilities being maintained as part of this project.

Discussion

a. No Impact. Routine maintenance activities would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

b. No Impact. Routine maintenance activities would not conflict with existing zoning for agricultural use or a Williamson Act contract.

c. No Impact. Routine maintenance activities would not cause conflicts within existing zoning, or require rezoning of forest land or timberland.

d. No Impact. Routine maintenance activities would not result in the loss of forest land or conversion of forest land to non-forest use.

e. No Impact. Routine maintenance activities would not involve other changes in the existing environment that could result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is proposed or required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?				X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?			X	
e. Create objectionable odors affecting a substantial number of people?			X	

Setting

Climate in the Rancho Cordova area is characterized by hot, dry summers and cold, rainy winters. During summer's longer daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between Nitrogen Oxides (NO_x) and Reactive Organic Gasses (ROG), which result in Ozone (O_3) formation. High concentrations of O_3 are reached in the Rancho Cordova area due to intense heat, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer.

The City lies towards the eastern edge of the Sacramento Valley Air Basin (SVAB). The Sacramento Metropolitan Air Quality Management District (SMAQMD) is responsible for implementing emissions standards and other requirements of federal and state laws in the project area. As required by the California Clean Air Act (CCAA), SMAQMD has published various air quality planning documents as discussed below to address requirements to bring the District into compliance with the state ambient air quality standards (SAAQS). The Air Quality Attainment Plans are incorporated into the State Implementation Plan (SIP), which is subsequently submitted to the U.S. Environmental Protection Agency (EPA), the federal agency that administrates the Federal Clean Air Act of 1970, as amended in 1990.

Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The EPA has established national ambient air quality standards (NAAQS) for seven air pollution constituents. As permitted by the Clean Air Act, California has adopted more stringent air emissions standards through the SAAQS, and expanded the number of air constituents regulated.

The California Air Resources Board (CARB) is required to designate areas of the state as attainment, nonattainment, or unclassified for any state standard. An "attainment" designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once. The area air quality attainment status of the SVAB and the City is shown on Table 1.

Table 1: SVAB/Sacramento County/Sacramento Metropolitan Area Attainment Status

Pollutant	State of California Attainment Status
Ozone	Nonattainment
Respirable Particulate Matter (PM10)	Nonattainment
Fine Particulate Matter (PM2.5)	Nonattainment
Carbon Monoxide	Attainment
Nitrogen Dioxide	Attainment
Lead	Attainment
Sulfur Dioxide	Attainment
Sulfates	Attainment
Hydrogen Sulfide	Unclassified
Visibility Reducing Particles	Unclassified

Source: (CARB 2012)

The Sacramento County/Sacramento Metropolitan Area portion of the SVAB is currently in nonattainment for state ozone, PM_{10}, and $PM_{2.5}$ standards. Concentrations of all other pollutants meet state standards.

Ozone is not emitted directly into the environment, but is generated from complex chemical reactions between ROG, or non-methane hydrocarbons, and NO_x that occur in the presence of sunlight. ROG and NO_x generators in Sacramento County include motor vehicles, recreational boats, other transportation sources, and industrial processes.

PM_{10}, or particulate matter, is a complex mixture of primary or directly emitted particles, and secondary particles or aerosol droplets formed in the atmosphere by precursor chemicals. The main sources of fugitive dust are construction dust, unpaved road dust, and paved road dust.

$PM_{2.5}$ is atmospheric particulate matter having a particle size less than 2.5 microns (µm) in diameter. In 2006, the EPA tightened the 24-hour fine particle standard from 65 micrograms per cubic meter (µg/m3) to

35 µg/m3, and retained the current annual fine particle standard at 15 µg/m3. These health-based standards were developed in order to provide standards for limiting the levels of unhealthful pollutants being generated.

Air Quality Attainment Planning

In order to work towards attainment for ozone and $PM_{2.5}$, the EPA Office of Air Quality Planning and Standards requires that each state containing nonattainment areas develop a written plan for cleaning the air in those areas. The plans developed are called SIPs. Through these plans, the states outline efforts they would make to correct the levels of air pollution and bring their areas back into attainment.

Discussion

a. No Impact. Routine maintenance activities would not conflict with or obstruct implementation of the SMAQMD Air Quality Plan (SMAQMD 2010) and activities would follow SMAQMD rules.

b. Less-than-Significant Impact. Routine maintenance activities may result in some temporary incremental increases in air pollutants, such as ozone precursors and particulate matter due to operation of gas powered equipment and land disturbance. However, the proposed maintenance activities would be periodic in nature and would not generate large amounts of dust or particulates. All routine maintenance activities would follow the SMAQMD rules and would implement all appropriate air quality best management practices (BMPs), including minimizing equipment idling time and use of water or similar chemical palliative to control fugitive dust.

c/d. Less-than-Significant Impact. Emissions derived from routine maintenance activities would be minor and are not anticipated to exceed the SMAQMD's emission thresholds for criteria pollutants. Further, maintenance activities would be conducted over a 12 year period at various creeks and drainages within the City and are therefore not anticipated to be concentrated at any particular location or point in time. Considering all maintenance activities are temporary, are anticipated to be short in duration, and the implementation of the proposed air quality BMPs, maintenance activities would have less than a cumulatively significant net increase in criteria pollutants and maintenance activities would also have less than a significant impact on exposing sensitive receptors to substantial pollutant concentrations.

e. Less-than-Significant Impact. Routine maintenance activities would be temporary, minor, and located along levees, creeks, detention basins, and drainage facilities using standard construction equipment. Any odors or toxic air contaminants generated by the project would be limited to construction equipment and would occur at such low concentrations and/or for such a short duration as to be negligible. Project activities would not include industrial or intensive agriculture uses.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is proposed or required; however, the following avoidance and/or minimization measures would be incorporated to minimize potential impacts:

AQ-1: SMAQMD's Rules 401 (Visible Emissions), 402 (Nuisance), 403 (Fugitive Dust) must be followed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL - Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Background

Dokken Engineering biologists conducted the following literature searches for routine maintenance activities: the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Data Base (CNDDB) and the California Native Plant Society (CNPS) *Electronic Inventory of Rare and Endangered Plants* to identify habitats and special-status species occurrences within the Carmichael, Buffalo Creek, Sacramento East, Florin, Elk Grove, Sloughhouse, Folsom, Citrus Heights, and Rio Linda California

USGS 7.5 minute topographic quadrangles and a U.S. Fish and Wildlife Service (USFWS) list of endangered and threatened species that may occur, or be affected by the project. Based on these literature reviews, a total of 37 sensitive species were evaluated and 16 of which were determined to have a low to moderate potential of occurrence. A summary of the federal and state special-status species found to have potential to occur within the routine maintenance areas are listed in Table 2. A determination of the species' potential to occur within the routine maintenance areas are based on regional information regarding the species' distributions, ecological requirements, and preferences for elevations and habitats.

Setting

Much of the native vegetative communities within the City are highly disturbed or absent due to urban and commercial development. However, the City does contain a number of native creeks and waterways which include the following: Lower American River, Tributaries 1 and 2 to the Lower American River Laguna Creek 1 and 2, Morrison Creek 1 through 5, Buffalo Creek, and Cordova Creek (Dawes Canal) and several other unnamed waterways and basins. Although the City's project areas are predominately comprised of urban and barren/developed habitats, vegetative communities are still persisting within and adjacent to these creeks, waterways and surrounding basins in proximity to anticipated future or current routine maintenance activity areas. These vegetative communities include ruderal/disturbed annual grassland, blue oak-foothill pine forest, blue oak woodland, valley foothill riparian and freshwater emergent wetland and are described below:

Routine Maintenance Activity Areas

Barren/Developed

The City's project area is largely dominated by barren/developed habitat which includes buildings, parking lots, pavement and hardscape. The habitat is defined by the absence of vegetation with less than 2% total vegetation cover by herbaceous or non-wildland species and less than 10% cover by tree or shrub species.

Urban

Second to barren/developed habitat, the City's project area largely consists of the urban vegetation community. Urban vegetation is variable, but is typified by planted and maintained mixed native and non-native tree groves, street strips, shade tree/lawns, lawns, and shrub cover. Street tree strips are often planted along roads and walkways with either continuous and discontinuous canopies and often planted in grass or other ground covers. The structural characteristics of shrub cover are highly variable, but are frequently observed as hedges in the urban landscape and are dependent on species and maintenance (Mayer and Laudenslayer 1988). Within the City, urban habitat includes but is not limited to ornamental trees, decorative shrubs, and maintained lawn strips associated with City streets, parks, commercial space and residences.

Ruderal/Disturbed Annual Grassland

A portion of landscape within the City includes ruderal/disturbed annual grassland vegetation. Annual grassland is an herbaceous community dominated by non-native naturalized grasses with intermixed perennial and annual forbs. Previous disturbance and associated compaction of soils is greatest along localized anthropogenic activities associated within the immediate vicinity of local homes, roadways and other

developments. Ruderal/disturbed annual grassland in the City includes but is not limited to, undeveloped slopes, fallow lots and narrow strips along existing roadways.

Blue Oak – Foothill Pine Forest

Blue oak – foothill pine forest habitat typically is characterized by mixed hardwoods, conifers, and shrubs at elevations between 500 and 3,000 feet. Tree species associated with the habitat include blue oaks (*Quercus douglasii*), valley oaks (*Quercus lobata*), California buckeye (*Aesculus californica*), and occasionally interior live oaks (*Quercus wislizeni*), while the understory usually is comprised of patches of shrubs and annual grasses (Mayer and Laudenslayer 1988). Dominant plant species specific to blue oak – foothill pine forest within the City include blue oak, valley oak, interior live oak, canyon oak (*Quercus chrysolepis*), California buckeye, and gray pine (*Pinus sabiniana*).

Blue Oak Woodland

The blue oak woodland habitat is characterized by a blue oak dominated broad-leaved tree habitat at elevations between 500 and 2,000 feet within the western foothills of the Sierra Nevada Ranges. The blue oak woodland habitat is most often described as having an overstory of scattered trees which form open savanna-like stands on dry ridges and gentle slopes. However, depending on water availability, this habitat has been known to form a nearly closed canopy. The understory is typically comprised of annual grasslands with occasional scattered shrubs (Mayer and Laudenslayer 1988). Blue oak is the dominant tree species specific to the blue oak woodland habitat within the City.

Valley Foothill Riparian

The valley foothill riparian community is typified by a dense, deciduous, riparian forest, with a canopy often composed of cottonwoods (*Populus* sp.), valley oak, and California sycamore (*Platanus racemosa*), while the sub-canopy is often composed of box elder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). The understory is shade tolerant and typically composed of wild grape (*Vitis californica*), California blackberry (*Rhus californica*), buttonbush (*Cephalanthus occidentalis*), elderberry (*Sambucus* sp.), poison oak (*Toxicodendron diversilobum*), wild rose (*Rosa* sp.) and willows (*Salix* sp.). This habitat is most commonly found along river channels and flood plains with fine-textured alluvium where flooding occurs and is commonly found at elevations between sea level and 3,000 feet above mean sea level (Mayer and Laudenslayer 1988). This habitat type is found adjacent to creeks, channels and basins throughout the City.

Fresh Emergent Wetlands

The fresh emergent wetland habitat is characterized by erect, rooted herbaceous hydrophytes (water-loving plants) which grow along the creeks and frequently flooded landscape depressions such as detention basins. The fresh emergent wetland habitat is typically dominated by perennial monocots and occurs at all elevations (Mayer and Laudenslayer 1988). When present, this habitat type is found within and at water's edge along creeks, channels and basins within the City limits and is typically dominated by bulrush (*Scirpus* sp.), cattail (*Typha* sp.), and sedge (*Cyperus* sp.).

Table 2: Special Status Species Potentially Occurring within the Project Areas					
Common Name	**Scientific Name**	**Status**		**General Habitat Description**	**Potential for Occurrence and Rationale**
Plant Species					
Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting grassland swales, gopher mounds and vernal pool margins of mesic valley and foothill grassland communities. Flowers March – May (98-751 feet).	**Presumed Absent.** The species is present within the City but outside the project area. Maintenance activities would be in previously disturbed areas.
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	Fed: CA: CNPS:	-- E 1B.2	An annual herb inhabiting clay soils and shallow waters of marshes and swamps, lake margins, and vernal pools. Flowers April-August (33-7,792 feet).	**Presumed Absent.** The species is present within the City but outside the project area. Maintenance activities would be in previously disturbed areas.
Dwarf downingia	*Downingia pusilla*	Fed: CA: CNPS:	-- -- 2B.2	An annual herb inhabiting vernal pools and mesic valley and foothill grassland communities. Flowers March-May (3-1,460 feet).	**Presumed Absent.** The species is not present within the project area, and would not occur around the maintenance site activities.
Heckard's pepper-grass	*Lepidium latipes* var. *heckardii*	Fed: CA: CNPS:	-- -- 1B.2	An annual herb found in alakine flats within valley or foothill grasslands. Flowers March-May (0 - 660 feet)	**Presumed Absent.** The project area lacks alkaline soils and the species does not have any occurrences in the project area.
Legenere	*Legenere limosa*	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting wet areas, vernal pools, and ponds. Flowers May-June (0-2,887 feet).	**Low to Moderate.** The project area contains wet areas where maintenance work would be completed, and the species has occurred in the project area.
Northern California black walnut	*Juglans hindsii*	Fed: CA: CNPS:	-- -- 1B.1	A native tree to California inhabiting riparian areas in the Inner North Coast Ranges, southern Sacramento Valley, northern San Joaquin Valley, and San Francisco Bay Area. Very few native, extant stands remain. Flowers April-May (0-3940 feet).	**Presumed Absent.** The only CNDDB occurrence is over 20 miles from the project area and is extirpated.
Peruvian dodder	*Cuscuta obtusiflora* var. *glandulosa*	Fed: CA: CNPS:	-- -- 2B.2	An annual parasitic vine inhabiting freshwater marsh communities on herbs such as Alternanthera sp., Dalea sp., Lythrum sp., Polygonum sp., and Xanthium sp. (49-918 feet).	**Low to Moderate.** The streams, channels and basins comprising the project area may provide suitable freshwater marsh habitat. The only CNDDB occurrence is over 11 miles from the project area.
Pincushion navarretia	*Navarretia myersii* ssp. *myersii*	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting vernal pool communities, often in acidic soil conditions. Flowers in May (65-1,083 feet).	**Presumed Absent.** The project area lacks acidic soil conditions and the only CNDDB occurrence is over 1.5 miles from the project area.

Table 2: Special Status Species Potentially Occurring within the Project Areas					
Common Name	**Scientific Name**	**Status**		**General Habitat Description**	**Potential for Occurrence and Rationale**
Sacramento Orcutt grass	*Orcuttia viscida*	Fed: CA: CNPS:	E E 1B.1	An annual herb inhabiting vernal pools. Flowers April-July (98-328 feet).	**Presumed Absent.** The species is present within the City but outside the project area. Maintenance activities would be in previously disturbed areas and is unlikely to be near vernal pools.
Saline clover	Trifolium hydrophilum	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting mesic alkaline soils within marshes, swamps, vernal pools, and valley/ foothill grasslands. Flowers April-June (0 - 1000 feet).	**Presumed Absent.** The project area does not contain alkaline soils and the nearest CNDDB occurrence is approximately 14 miles away.
Sanford's arrowhead	*Sagittaria sanfordii*	Fed: CA: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater marshes, swamps, ponds and ditches. Flowers May-October (0-2,132 feet).	**Low to Moderate.** The streams, channels and basins comprising the project area may provide suitable wetland habitat for Sanford's arrowhead and CNDDB reports occurrences of it within the project area.
Slender Orcutt grass	*Orcuttia tenuis*	Fed: CA: CNPS:	T E 1B.1	An annual herb inhabiting vernal pools. Flowers May-October (115-5,774 feet).	**Presumed Absent.** The species is present within the City but outside the project area. Maintenance activities would be in previously disturbed areas and is unlikely to be near vernal pools.
Woolly rose-mallow	*Hibiscus lasiocarpos* var. *occidentalis*	Fed: CA: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater wetlands, wet banks, and marshes. Flowers June-September (0-394 feet).	**Low to Moderate.** The streams, channels and basins comprising the project area may provide suitable wetland habitat for the species; however, the closest CNDDB occurrence is over 10 miles away.
Avian Species					
Bald eagle	*Haliaeetus leucocephalus*	Fed: CA: DFW:	D E FP	Species occurs near ocean shores, lakes, rivers, rangelands and coastal wetlands for nesting and wintering; nesting occurs within 1 mile of a water source with abundant fish near mountain forests and woodlands. Prefers ponderosa pines for nesting.	**Low to Moderate.** The project area includes riparian and woodland vegetation in proximity to large bodies of water potentially suitable for bald eagle nesting. The nearest CNDDB occurrence is approximately 11 miles from the project limits.
Bank swallow	*Riparia riparia*	Fed: CA: DFW:	-- T --	A migratory colonial nester inhabiting lowland and riparian habitats west of the desert during spring - fall. Majority of current	**Low to Moderate.** The streams, channels and basins comprising the project area may provide suitable riparian

Table 2: Special Status Species Potentially Occurring within the Project Areas

Common Name	Scientific Name	Status		General Habitat Description	Potential for Occurrence and Rationale
				breeding populations occur along the Sacramento and Feather rivers in the north Central Valley. Requires vertical banks or cliffs with fine textured/sandy soils for nesting (tunnel and burrow excavations). Nests exclusively near streams, rivers, lakes or the ocean. Breeds May-July.	habitat for bank swallow and CNDDB reports occurrences of it within the project area.
Burrowing owl	*Athene cunicularia*	Fed: CA: DFW:	-- -- SSC	Species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Requires friable soils for burrow construction (Below 5,300 feet).	**Low to Moderate.** Occurrences of disturbed open habitats within the project area outside the city limits may provide suitable habitat for burrowing owl. CNDDB reports occurrences of it within the project area.
Golden eagle	*Aquila chrysaetos*	Fed: CA: DFW:	-- -- FP	Inhabits grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. Requires open terrain for hunting, often utilizing rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops. Home range dependent on prey availability and habitat openness; estimated at 48 mi^2 in northern California. Species nests on cliffs and large trees in open areas; breeds January-August (0-11,000 feet).	**Presumed Absent.** The streams, channels and basins comprising the project area are adjacent to a highly developed urban landscape. The project area lacks rolling foothills and mountain terrain with canyons. There are no CNDDB occurrences within the project area.
Purple martin	*Progne subis*	Fed: CA: DFW:	-- -- SSC	Present in California as a summer migrant, arriving in March and departing by late September. Inhabits valley foothill and montane hardwood/hardwood-conifer, coniferous habitats and riparian habitats. Nests in tall, old, isolated trees or snags in open forest or woodland and in proximity to a body of water. Frequently nests within former woodpecker cavities; may nest in human-made structures such as nesting boxes, under bridges and in culverts. Needs abundant aerial insect prey. Breeds April-	**Presumed Absent.** The streams, channels and basins comprising the project area contain adequate riparian vegetation to support purple martin. However, the nearest CNDDB occurrence is approximately 5 miles from the project limits. In addition, habitats where the maintenance activities would occur are locations that have been previously disturbed.

Table 2: Special Status Species Potentially Occurring within the Project Areas

Common Name	Scientific Name	Status		General Habitat Description	Potential for Occurrence and Rationale
				August.	
Song sparrow (Modesto population)	*Melospiza melodia*	Fed: CA: DFW:	-- -- SSC	Partially migratory bird, usually found in open brushy habitats, along the borders of ponds or streams, abandoned pastures, desert washes, thickets, or woodland edges. Breeds from April through August. Nest found in base of shrubs or clumps of grass.	**Presumed Absent.** The streams, channels and basins comprising the project area may provide suitable habitat for the species, however, the last known occur near the project area is from 1900.
Swainson's hawk	*Buteo swainsoni*	Fed: CA: DFW:	-- T --	Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds march to late August.	**Low to Moderate.** The streams, channels and basins comprising the project area contain adequate riparian vegetation to support nesting Swainson's hawk. The nearest CNDDB occurrence is within the project limits.
Tricolored blackbird	*Agelaius tricolor*	Fed: CA: DFW:	-- -- SSC	Prefers freshwater marsh, swamp and wetland communities, but utilize agricultural or upland habitats that can support large colonies often in the Central Valley area. Requires protected dense nesting habitat protected from predators, be within 3-5 miles to a suitable foraging area with insect prey and within 0.3 miles of open water. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and in some irrigated croplands (silage, alfalfa, etc.). Nests mid-March - early August, but may extend until October/November in the Sacramento Valley region.	**Low to Moderate.** The wetlands and basins within the project area may contain adequate emergent wetland vegetation to support a tricolored blackbird breeding colony. There are "possibly extirpated" CNDDB occurrences within the project area and extant occurrences outside of the project area.
White-tailed kite	*Elanus leucurus*	Fed: CA: DFW:	-- -- FP	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Breeds February-October.	**Low to Moderate.** The project area may contain the preferred open grasslands, meadows and wetland habitat for white-tailed kite. CNDDB states occurrences within the project area.
Yellow-headed	*Xanthocephalus*	Fed:	--	Inhabits fresh emergent wetland	**Presumed Absent.** Although

Table 2: Special Status Species Potentially Occurring within the Project Areas					
Common Name	**Scientific Name**	**Status**		**General Habitat Description**	**Potential for Occurrence and Rationale**
blackbird	*xanthocephalus*	CA: DFW:	-- SSC	with dense vegetation and deep water, often along borders of lakes or ponds. Nest and roost over water and most foraging takes place over water or on moist ground. Has bred at elevations as high as 6600 feet.	the project site contains the wetland habitat and borders many streams and the American River, the closest CNDDB occurrence is over 10 miles from the project area.
Mammal Species					
American badger	*Taxidea taxus*	Fed: CA: DFW:	-- -- SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons (up to 12,000 feet).	**Presumed Absent.** The streams, channels and basins comprising the project area are adjacent to a highly developed urban landscape which lacks the undeveloped acreages to provide a viable home range for the species; habitat unsuitable for American badger. CNDDB reports an extirpated occurrence within the project area. The next nearest CNDDB closest occurrence is approximately 2.5 miles outside the project area.
Pallid bat	*Antrozous pallidus*	Fed: CA: DFW:	-- -- SSC	Inhabits low elevations of deserts, grasslands, shrub lands, woodlands and forests year round. Most common in open, dry habitats with rocky areas for roosting. Prefers caves, crevices, and mines for day roosts, but may utilize bridges, hollow trees and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Young are born April-July (below 10,000 feet elevation)	**Low to Moderate.** The project occurs within suitable open foraging sites and may provide preferred hollow trees, bridges, crevices, and mines or other structure for pallid bat roosting; however, the only CNDDB occurrence is approximately 5 miles from the project area and is from 1941.
Amphibian Species					
California tiger salamander	*Ambystoma californiense*	Fed: CA: DFW:	T T SSC	Inhabits annual grasslands and the grassy understory of valley-foothill hardwood communities. Requires underground refuges, especially ground squirrel	**Presumed Absent.** The site occurs within a disturbed urban area adjacent to residences and businesses and lacks the preferred grassy

Table 2: Special Status Species Potentially Occurring within the Project Areas					
Common Name	**Scientific Name**	**Status**		**General Habitat Description**	**Potential for Occurrence and Rationale**
				burrows and vernal pools or other seasonal water sources for breeding.	understory of valley-foothill hardwood habitats.
California red-legged frog	*Rana draytonii*	Fed: CA: DFW:	T -- SSC	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development and must have access to estivation habitat. Occurs from elevations near sea level to 5,200 ft.	**Low to Moderate.** The streams, channels and basins comprising the project area may contain adequate deep water and estivation habitat for the species; habitat potentially suitable for the California red-legged frog. The nearest CNDDB occurrence is approximately 10.25 miles from the project limits.
Western spadefoot	*Spea hammondii*	Fed: CA: DFW:	-- -- SSC	Inhabits burrows within grassland and valley foothill hardwood woodland communities. Requires vernal, shallow, temporary pools formed by heavy winter rains for reproduction. Breeds late winter-March.	**Presumed Absent.** The streams, channels and basins comprising the project area lack the preferred valley foothill hardwood woodland communities or vernal, shallow, temporary pools. CNDDB recorded an occurrence in the project area in 1978; however, the City has developed since then and much of the required vegetation communities no longer exist.
Reptile Species					
Giant garter snake	*Thamnophis gigas*	Fed: CA: DFW:	T T --	Inhabits marsh, swamp, wetland (including agricultural wetlands), sloughs, ponds, rice fields, low gradient streams and irrigation/drainage canals adjacent to uplands. Species requires adequate water during the active season (April-November), emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat and mammal burrows estivation. Requires grassy banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during winter dormant season. Species is extremely shy and sensitive to disturbance.	**Presumed Absent.** The project contains adequate water or wetland habitat to support the species. However, the project is largely outside the current range of the species. In addition, the nearest CNDDB occurrence is greater than 10 miles from project location. Further, habitats where maintenance activities would occur are locations that have been previously disturbed and in proximity to regular human disturbances.

Table 2: Special Status Species Potentially Occurring within the Project Areas					
Common Name	**Scientific Name**	**Status**		**General Habitat Description**	**Potential for Occurrence and Rationale**
Western pond turtle	*Emys marmorata*	Fed: CA: DFW:	-- -- SSC	A fully aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open field) upland habitat for reproduction (sea level-4,690 feet).	**Low to Moderate.** The streams, channels and basins comprising the project area contain sufficient habitat to support the fully aquatic western pond turtle. There are multiple occurrences on CNDDB approximately a quarter mile from the project area.
Invertebrate Species					
Conservancy fairy shrimp	*Branchinecta conservatio*	Fed: CA: DFW:	E -- --	Inhabits relatively large and turbid clay bottomed playa vernal pools. Species requires pools to continuously hold water for a minimum of 19 days and must remain inundated into the summer months. Occupied playa pools typically are 1 to 88 acres in size, but species may to utilize smaller, less turbid pools.	**Presumed Absent.** Vernal pools are present within the project area; however, activities would be in previously disturbed areas and is unlikely to be near vernal pools.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Fed: CA: DFW:	T -- --	Requires elderberry shrubs (*Sambucus* sp.) as host plants. Typically in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. Prefers elderberries 2-8 inches in diameter; some preference toward 'stressed' elderberries.	**Low to Moderate.** The project area contains the requisite elderberry shrub habitat for valley elderberry longhorn beetle. The nearest CNDDB occurrence is within the project limits. The Project area contains critical habitat for the species.
Vernal pool fairy shrimp	*Branchinecta lynchi*	Fed: CA: DFW:	T -- --	Endemic to the grasslands of the Central Valley, Central Coast mountains and South Coast Mountains, in astatic rain-filled pools. Inhabits small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. Species is dependent on seasonal fluctuations.	**Presumed Absent.** Although the species is found within the project area, the streams, channels and basins comprising the project area lack the requisite vernal sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools required for vernal pool fairy shrimp.
Vernal pool tadpole shrimp	*Lepidurus packardi*	Fed: CA: DFW:	E -- --	Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water.	**Presumed Absent.** Although the project area contains occurrences on CNDDB of the species, the streams, channels, and basins comprising the project area lack the requisite vernal pools required for vernal pool tadpole shrimp.

Table 2: Special Status Species Potentially Occurring within the Project Areas					
Common Name	**Scientific Name**	**Status**		**General Habitat Description**	**Potential for Occurrence and Rationale**
Fish Species					
Central Valley spring-run Chinook salmon	*Oncorhynchus tshawytscha*	Fed: CA: DFW:	T --T --	Spring-run Chinook enter the Sacramento-San Joaquin River system to spawn, requiring larger gravel particle size and more water flow through their redds than other salmonids. Remaining runs occur in Butte, Mill, Deer, Antelope, and Beegum Creeks, tributaries to the Sacramento River. Known to occur in Siskiyou and Trinity counties.	**Low to Moderate.** The American River is part of the Sacramento River system and is known to have Central Valley spring-run Chinook salmon habitat. The City creeks and streams reaches, including Cordova Creek provide connectivity to known river populations. CNDDB has reported occurrences within the project area. The Lower American River 2.5 miles downstream from the project area is considered Central Valley spring-run Chinook salmon critical habitat.
Central Valley steelhead	*Oncorhynchus mykiss*	Fed: CA: DFW:	T -- --	Spawning occurs in small tributaries on coarse gravel beds in riffle areas. Central Valley steelhead are found in the Sacramento River system; the principal remaining wild populations spawn annually in Deer and Mill Creeks in Tehama County, in the lower Yuba River, a small population in the lower Stanislaus River and, though potentially extirpated, from the San Joaquin basin.	**Low to Moderate.** The American River is part of the Sacramento River system and is known to have steelhead habitat. The City's creeks and streams reaches, including Cordova Creek, provide connectivity to known river populations. CNDDB has reported occurrences within the project area. The Lower American River within the project area has steelhead critical habitat.
Delta smelt	*Hypomesus transpacificus*	Fed: CA: DFW:	T E --	Occurs within the Sacramento-San Joaquin Delta and seasonally within the Suisun Bay, Carquinez Strait and San Pablo Bay. Most often occurs in partially saline waters.	**Presumed Absent.** The project area does not provide adequate water and is outside the range of the delta smelt.
Longfin smelt	*Spirinchus thaleichthys*	Fed: CA: DFW:	C T SSC	Resides in California and are primarily an anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater. Prefers temperatures in the range of 16-18°C and salinities ranging from 15-30 ppt. Their spatial distribution within a bay or estuary is seasonally variable. Longfin smelt may also make daily	**Presumed Absent.** Although the longfin smelt is able to live in a wide range of habitats, the closest CNDDB occurrence is over 10 miles from the project area.

Table 2: Special Status Species Potentially Occurring within the Project Areas

Common Name	Scientific Name	Status		General Habitat Description	Potential for Occurrence and Rationale
				migrations; remaining deep during the day and rising to the surface at night.	
Sacramento splittail	*Pogonichthys macrolepidotus*	Fed: CA: DFW:	-- -- SSC	Historically inhabited low moving rivers, sloughs, and alkaline lakes of the Central Valley; now restricted to the Delta, Suisun Bay and associated marshes. Species is adapted to fluctuating environments with tolerance to water salinities from 10-18 ppt., low oxygen levels (< 1.0 mg/L) and temperatures of 41-75°F. Spawns late February-early July, with a peak in March-April; requires flooded vegetation for spawning activity and protective cover for young.	**Presumed Absent.** The project area is not within the Delta or Suisun Bay. The nearest CNDDB occurrence is approximately 12 miles from the project area.

Federal Designations (Fed):
(FESA, USFWS)
E: Federally listed, endangered
T: Federally listed, threatened
D: Federally delisted

State Designations (CA):
(CESA, CDFW)
E:State-listed, endangered
T:State-listed, threatened
FP: CDFW Fully Protected

Other Designations
DFW_SSC: DFW Species of Special Concern
DFW_FP: DFW Fully Protected

California Native Plant Society Designations*:*
Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the CFG Code. This interpretation is inconsistent with other definitions.
1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2B: Plants are endangered in California
2: Plants rare, threatened, or endangered in California but more common elsewhere in their range.
3: Plants about which need more information; a review list.
Plants 1B, 2, and 3 extension meanings:
_.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
_.2 Fairly endangered in California (20-80% occurrences threatened)
_.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Potential for Occurrence Criteria:
Present: Species was observed on site during a site visit or focused survey.
High: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site.
Low-Moderate: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search.
Presumed Absent: Focused surveys were conducted and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.

Source: (Bennet 2005), (CDFW 2014) (CNDDB 2014), (CNPS 2014), (Evans 2000),),(Keiller 2011), (Miller and Hornaday 1999), (NMFS 2009, 2012a, 2012b, 2005), (Shuford and Gardali 2008), (Tesky 1994), (Sullivan 1996), (University of California Davis 2014), (USFWS 1993, 2002a, 2002b, 2005, 2007a, 2007b, 2007c) (Wang 2010) (Yoshiyama et. al 1998), (Zeiner 1988-1990)

Local Regulations

The City regulates urban development through standard construction conditions and through mitigation, building, and construction requirements set forth in the Rancho Cordova Municipal Code. Required of all project constructed throughout the City, compliance with the requirements of the City's standard conditions and the provisions of the Municipal Code avoids or reduces many potential environmental effects. Requirements related to biological resources include the protection of existing trees. The City protects "native oak trees" (any native oak with a dbh of 6 inches or greater or multi-trunked of dbh 10 inches or greater), "street trees" (tree whose trunk is wholly or partially located within a city street or planting easement), "heritage trees" (a native oak tree over 60 inches dbh) and landmark trees.

Discussion

a. Less-than-Significant Impact with Mitigation Incorporated. The project site includes areas of riparian and wetland vegetation along creeks, drainages and basins that may provide suitable habitat for sensitive plant of wildlife species. CNDDB special status species occurrences presumed extant within the City are displayed on Figure 5: CNDDB Occurrences of Federal Listed, State Listed and Species of Special Concern. Activities associated with the project would be limited to small scale maintenance work including, but not limited to the following: debris and obstruction removal; silt, sand or sediment removal; vegetation control in channels; repair of previous erosion work; minor erosion control work; bridge washing and painting; trail maintenance; channel alignment maintenance; removal or replacement of facilities; and geotechnical sampling. There is a potential for sediments or other pollutants to enter aquatic habitats which may result in adverse effects to aquatic wildlife individuals and sensitive aquatic habitats. Surveys would be conducted prior to vegetation removal or ground disturbance activities which have the potential to affect sensitive plants or wildlife. Coordination with the wildlife agencies would take place if the surveys detect a sensitive species. Measures **BIO-1 - BIO-6** have been incorporated into the project design to avoid and minimize impacts to sensitive species and are summarized below. Adherence to these conditions during the permitted activity would ensure that impacts to special status species are less than significant. A discussion of potential impacts to each potentially occurring special status species is listed below.

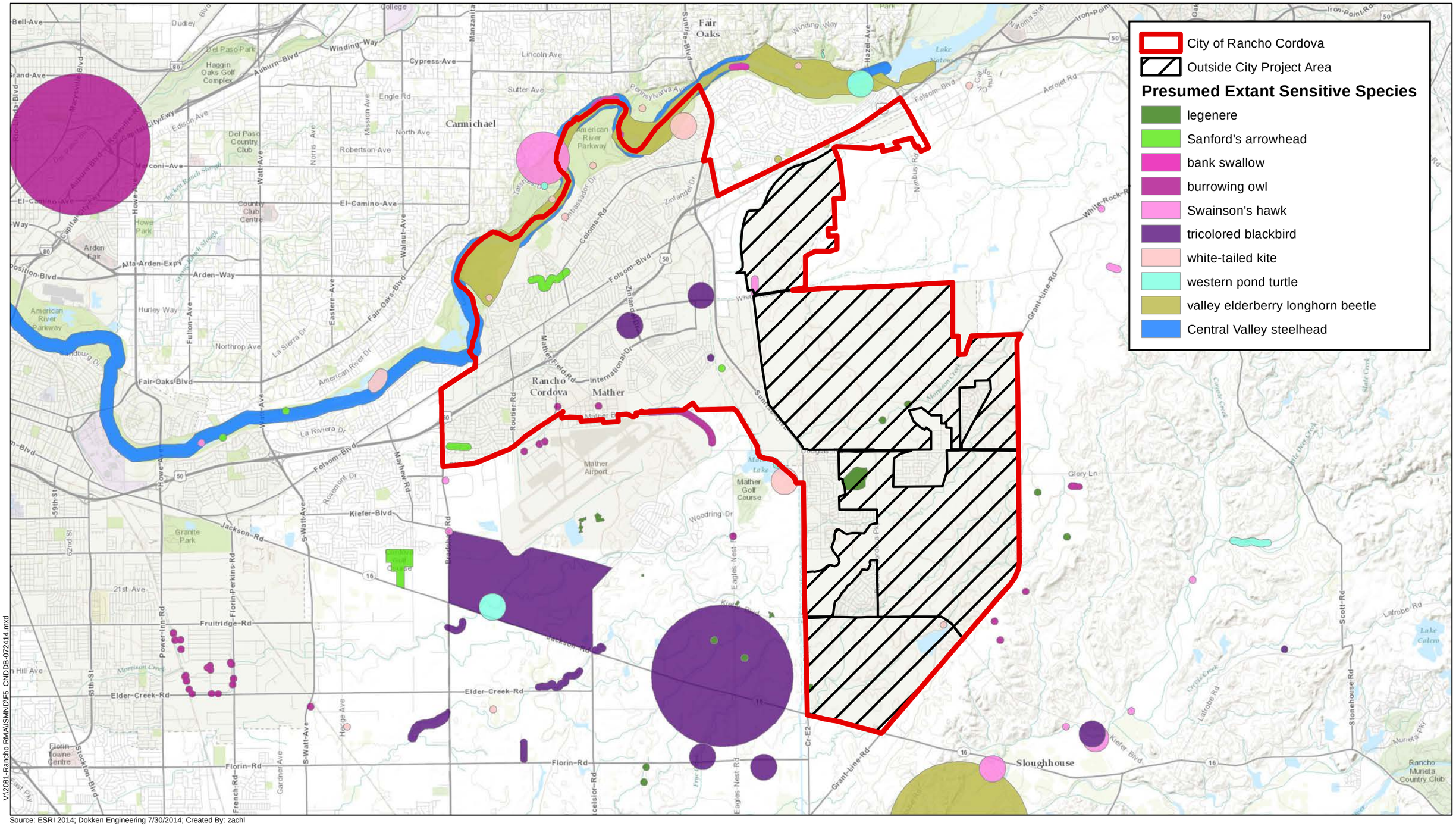


FIGURE 5
CNDDB Occurances of Federal Listed, State Listed, and Species of Special Concern
Routine Maintence of Stream Channels and Drainage Facilities
City of Rancho Cordova, Sacramento County, California

Special Status Plants

Following the CNDDB search, four special-status species plant, Legenere (*Legenere limosa*), Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*), Sanford's arrowhead (*Sagittaria sanfordii*), and Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*) were determined to have potential to occur in the project study area. These species are described briefly in the following section.

Legenere, Peruvian dodder, Sanford's Arrowhead, and Woolly rose-mallow.

While potentially suitable habitat for Legenere, Peruvian dodder, Sanford's Arrowhead, and Woolly rose-mallow exists in the stream channels and wetland basins within the project area, routine maintenance would occur at locations that have been previously disturbed. Therefore, although project activities within basins and stream channels could inadvertently result in the removal of Legenere, Peruvian dodder, Sanford's Arrowhead, and Woolly rose-mallow individuals, if present, any remaining extant populations are anticipated to have been previously disturbed. Considering the scale of project activities and the disturbed site conditions, any impacts to Legenere, Peruvian dodder, Sanford's Arrowhead, and Woolly rose-mallow individuals are not anticipated to impact the viability of the overall Legenere, Peruvian dodder, Sanford's Arrowhead, and Woolly rose-mallow populations. Adherence to measures **BIO-1** would avoid and minimize potential effects to this species. Should the species be observed within project areas, the City would implement additional avoidance measures as determined in coordination with CDFW.

Sensitive Wildlife Species

Following the CNDDB search, a total of 12 special-status wildlife species were determined to have potential to occur in the project study areas: bald eagle (*Haliaeetus leucocephalus*), bank swallow (*Riparia riparia*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), tricolored black bird (*Agelaius tricolor*), white-tailed kite (*Elanus leucurus*), pallid bat (*Antrozous pallidus*), California red-legged frog (*Rana draytonii*), western pond turtle (*Emys marmorata*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), and Central Valley steelhead (*Oncorhynchus mykiss*). These species are described briefly below.

Valley Elderberry Longhorn Beetle

Potentially suitable valley elderberry longhorn beetle habitat exists within the project area. Although project activities within stream channels, basins and riparian habitats would occur in suitable elderberry shrub habitat, worker crews would be trained to identify and avoid trimming or removing elderberry shrubs, the obligate host for the valley elderberry longhorn beetle. Should project activities require the alteration or removal of an elderberry shrub, the City would initiate consultation with the USFWS. Adherence to measures **BIO-1** and **BIO-2** would avoid and minimize potential effects to the valley elderberry longhorn beetle; no effects to the valley elderberry longhorn beetle are anticipated.

Western Pond Turtle

Potentially suitable western pond turtle wetland, pond, lake and stream habitat exists within the project area. Although routine maintenance ground or vegetation disturbing activities would occur within stream channels, wetland basins, ponds and riparian habitats suitable for the species, worker

crews would be trained to identify and avoid harm to the western pond turtle. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, when the species is most active and readily identifiable. As determined appropriate by CDFW, additional measures may be incorporated into the project design as a condition of the variance. Although project activities may affect some western pond turtle individuals, if present, considering the scale of project activities and the adherence to measures **BIO-1, BIO-3** and **BIO-5** project activities are not anticipated to impact the viability of the overall population.

California Red-legged Frog

While potentially suitable California red-legged frog wetland and stream habitat occurs within the project limits, the nearest CNDDB occurrences are outside of the City. Although ground or vegetation disturbing activities would take place within stream channels, wetland basins and riparian habitats suitable for the species, worker crews would be trained to identify and avoid all impacts to the California red-legged frog. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, when the species is most active and readily identifiable. As determined appropriate by CDFW, additional measures may be incorporated into the project design as a condition of the variance. Should project activities be determined to have the potential to affect the California red-legged frog, the City would initiate consultation with the USFWS. Adherence to measures **BIO-1, BIO-3** and **BIO-5** would avoid and minimize potential effects to the California red-legged frog; no effects to the California red-legged frog are anticipated.

Swainson's Hawk, Bald Eagle and White-tailed Kite,

Potentially suitable the riparian corridors and adjacent mature, upland tree Swainson's hawk, bald eagle, and white-tailed kite nesting habitat exists within the project area. Although ground or vegetation disturbing activities would occur within and adjacent to stream channels, wetland basins and riparian habitats suitable for nesting individuals of these species, worker crews would be trained to identify and avoid harm to Swainson's hawk, bald eagle, and white-tailed kite. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, during the species' nesting seasons. As determined appropriate by CDFW, additional measures may be incorporated into the project design as a condition of the variance. Considering the scale of project activities and the adherence to measures **BIO-1** and **BIO-3**, project activities are not anticipated to adversely affect nesting individuals, should they be present.

Tricolored Black Bird

Potentially suitable tricolored black bird freshwater marsh and emergent wetland nesting habitat exists within the basins and floodplains of the project. Although project activities would occur within wetland basins habitat suitable for nesting tricolored black bird individuals, worker crews would be trained to identify and avoid harm to tricolored black birds. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, during the species' nesting season. As determined appropriate by

CDFW, additional measures may be incorporated into the project design as a condition of the variance. Therefore, considering the scale of project activities and the adherence to measures **BIO-1** and **BIO-3**, project activities are not anticipated to adversely affect nesting individuals or the viability of the overall tricolored blackbird population, should they be present.

Burrowing Owl

Potentially suitable burrowing owl upland habitat adjacent to jurisdictional features exists within the City. Although project activities such as staging, geotechnical sampling or other ground disturbing activities would occur in proximity to suitable burrowing owl upland habitat, worker crews would be trained to identify and avoid harm to burrowing owl. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, during the species' nesting season. As determined appropriate by CDFW, additional measures may be incorporated into the project design as a condition of the variance. Therefore, considering the scale of project activities and the adherence to measures **BIO-1** and **BIO-3**, project activities are not anticipated to adversely affect nesting individuals or the viability of the overall burrowing owl population, should they be present.

Bank Swallow

Potentially suitable bank swallow nesting habitat exits in the steep banked riparian corridors within the project area. Although ground or vegetation disturbing activities within and adjacent to steep banked riparian corridors, such as such as silt and sediment removal, geotechnical sampling, erosion control, channel alignment maintenance or other ground and vegetation disturbing activities would occur within riparian bank habitat suitable for nesting bank swallow individuals, worker crews would be trained to identify and avoid harm to bank swallow. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, during the species' nesting season. As determined appropriate by CDFW, additional measures may be incorporated into the project design as a condition of the variance. Therefore, considering the scale of project activities and the adherence to measures **BIO-1** and **BIO-3**, project activities are not anticipated to adversely affect nesting bank swallow population, should they be present.

Pallid Bat

Potentially suitable day and night roosting habitat for pallid bat may occur on the culverts and bridges within the project limits. Although some project activities would be associated with bridges, culverts, and other potentially suitable pallid bat roosting habitat, worker crews would be trained to identify and avoid harm to pallid bats. Further, the City is required to submit a VRF variance request to CDFW should project activities occur within suitable habitat areas between February 15th and September 30th, which includes the species' pupping season. As determined appropriate by CDFW, additional measures may be incorporated into the project design as a condition of the variance. Therefore, considering the scale of project activities and the adherence to measures **BIO-1** and **BIO-3**, project activities are not anticipated to adversely affect the viability of the overall pallid bat population, should they be present.

Central Valley spring-run Chinook salmon and Central Valley steelhead

Potentially suitable habitat Central Valley spring-run Chinook salmon and Central Valley steelhead habitat in the Cordova Creek Restoration Area. Although ground or vegetation disturbing activities would take place within stream channels suitable for the species, worker crews would be trained to identify and avoid all impacts to the Central Valley spring-run Chinook salmon and Central Valley steelhead. Should project activities be determined to have the potential to affect the Central Valley spring-run Chinook salmon and Central Valley steelhead, the City would initiate consultation with National Oceanic and Atmospheric Administration (NOAA). Adherence to measures **BIO-1, BIO-4** and **BIO-5** would avoid and minimize potential effects to the Central Valley spring-run Chinook salmon and Central Valley steelhead; no effects to the Central Valley spring-run Chinook salmon and Central Valley steelhead.

b. Less-than-Significant Impact with Mitigation Incorporated. Riparian and freshwater emergent wetland habitat occurs along the creeks, drainages and basins within the project limits. The project may require the temporary and or permanent removal of riparian habitat and the maintenance of dense emergent vegetation in basins, but would be limited to only what is necessary to perform the City's routine maintenance activities. In addition, vegetation removal would be limited to only what is necessary to perform the City's routine maintenance activities and would only occur within the creeks, drainage channels, detention basins or other waters. The City would maintain stream channels in such a manner that it avoids removal of trees greater than 4 inches diameter at breast height (dbh) to the greatest extent feasible. Any removal of mature trees is anticipated to be rare and, when deemed necessary, is anticipated to occur in areas densely vegetated where the removal is unlikely to noticeably affect the biological environment. However, as a practice, the City would preferentially trim rather than remove live trees greater than 4 inches dbh. Although some impacts to sensitive riparian habitats would result from project activities, incorporation of measures **BIO-1, BIO-5, BIO-6 BIO-7,** and **BIO-8** would lessen potential impacts to riparian habitat located within the project area to a less than significant level. Exact compensatory mitigation for routine maintenance impacts to riparian and emergent wetland vegetation would be determined following submittal to the regulatory agencies through the VRFs.

c. Less-than-Significant Impact with Mitigation Incorporated. Federal and state jurisdictional wetlands are located in and adjacent to the streams, swales and basins within the project. Removal of sediment from waters of the U.S. and state, including freshwater emergent wetlands, would be limited to what would return flows to a more natural state. This is anticipated to potentially improve the habitat quality and function of the water features. Implementation of measures **BIO-1, BIO-6, BIO-7,** and **BIO-8** would lessen potential impacts to wetland habitat located within the project area to a less than significant level. For routine maintenance activities within the United States Army Corps of Engineers (USACE) jurisdiction, impacts would be limited to the requirements of a Section 404, Nationwide Permit 3 for maintenance.

d. Less-than-Significant. The project would not permanently interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife

corridors. Any interference with migratory wildlife corridors would be temporary and full functionality of all potential migratory corridors would be restored shortly after the maintenance activities complete.

e. Less-than-Significant with Mitigation Incorporated. The proposed project is subject to comply with City Municipal Code, Chapter 19.12 Tree Preservation and Protection, which restricts removal of native oak trees for trees with a dbh of 6 inches or greater or multi-trunked of dbh 10 inches or greater (see **BIO-7)**.

f. No Impact. Within the project area, there is the proposed South Sacramento Habitat Conservation Plan; however, this plan is not finalized and still being studied. No other Habitat Conservation Plans exist within the area. The project would not conflict with any locally adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and/or minimization measures would be incorporated to minimize potential impacts:

BIO-1: Prior to beginning any maintenance work under the CDFW Agreement, the City maintenance supervisors and crews who would be completing the work must be trained by qualified personnel to identify and avoid harm to sensitive resources, special status species and their habitats.

BIO-2: The City would avoid impacts to elderberry shrubs. If maintenance activities cannot avoid impacts to elderberry shrubs, the City must initiate Consultation with the USFWS.

BIO-3: To protect aquatic species, nesting migratory birds, and bats, the City must submit a variance request to the CDFW to perform vegetation removal, sediment removal, or bridgework between February 15th and September 30th. CDFW would use their discretion on whether the activities are allowed and if additional measures are required.

BIO-4: To protect anadromous fish species, the City must use hand tools to clear vegetation at the Cordova Creek Restoration Area. If larger equipment is necessary for maintenance of the Cordova Creek Restoration Area, the City must initiate Consultation with NOAA.

BIO-5: The City must prevent chemicals, paint, oil, gas, petroleum products, and other hazardous substances from contaminating the soil and/or entering waters of the U.S. and State. Any equipment operated adjacent to a stream must be checked and maintained daily to prevent leaks of materials. Refueling, lubricating and washing of vehicles and equipment must occur at a minimum of 100 feet from waters and must not be placed in areas where harmful materials, if spilled, can enter waters. Stationary equipment such as motors, pumps, generators, compressors, and welders located within or adjacent to the stream must be positioned over drip pans.

BIO-6: Prior to arrival at the project site and prior to leaving the project site, the City must clean all equipment that may contain invasive plants and/or seeds to reduce the spreading of noxious weeds.

BIO-7: The City would comply with the City of Rancho Cordova's Municipal Code, Chapter 19.12 Tree Preservation and Protection. Chapter 19.12 Tree Preservation and Protection restricts removal of native oak trees for trees with a dbh of 6 inches or greater or multi-trunked of dbh 10 inches or greater.

BIO-8: The City shall avoid conducting routine maintenance activities within vernal pools.

BIO-9: At a frequency deemed necessary by the City, nuisance burrowing rodents (defined as gophers, voles, mice, and ground squirrels) on the levees must be controlled by Carbon Monoxide fumigation. Fumigation must be conducted during the spring (February 1 –May 31) and must be applied by a certified and experienced applicator with the appropriate pesticide and CDFW permits. Prior to application, Contractor must follow all applicable state fumigation regulations, including but not limited to the posting of appropriate signage and preparation of a fumigation management Plan for burrowing rodents.

No less than 2 days prior to fumigations, tall grasses and weeds must be mowed or weedeaten to a height of four (4) inches to locate obscured burrows. The burrow must not be disturbed the day of application to avoid pre-mature temporary abandonment of the burrow.

No less than 24 hours prior to fumigation, each burrow must be inspected by qualified staff to confirm the burrow is only occupied by the target nuisance rodent species. River otters, badgers, burrowing owls, bank swallow and other non-rodent species must not killed by fumigation efforts or targeted for lethal control. Burrows identified as being occupied by a species other than the targeted nuisance rodent must be flagged and avoided. Fumigation must not be applied within 40 feet of a flagged burrow.

Contractor must follow all label rates and application methods. At a minimum, at the time of carbon monoxide application all burrow entrances must be completely blocked to prevent the escapement of fumigant or target species. Following fumigation, all fumigated burrows must be grouted as specified.

The City will determine the need to control larger mammals such as beaver, muskrat, coyote, or fox on a periodic basis. Should the city deem control of larger mammals such as control of beaver, muskrat, coyote, or fox, the contractor must acquire and adhere to the requisite permits from the CDFW.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES - Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?		X		
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d. Disturb any human remains, including those interred outside of formal cemeteries?		X		

Setting

CEQA, at Public Resources Code §21083.2, requires planning agencies to determine if a project may have a significant effect on historical resources or unique archaeological resources. Public Resources Code §21083.2 also provides that if it is demonstrated that a project would have a substantial adverse change to historic resources, the impact must be addressed in an environmental impact report. Public Resources Code §15064.5 defines a substantial adverse change "as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

In addition, Public Resources Code §15064.5 requires consideration of potential impacts to resources that are listed or qualify for listing on the California Register of Historical Resources (CRHR). CEQA (Public Resource Code §5024) created the California Register, which includes historical resources that are listed automatically by virtue of their appearance on, or eligibility for, certain other lists of important resources and incorporates resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of the State Historical Resources Commission's evaluation in accordance with specific criteria and procedures.

Under CEQA, Public Resources Code, §21060.5, historical resources are considered part of the environment. CEQA (Public Resource Code §21084.4) defines an "'historical resource' as including, but not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

Public Resources Code § 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site that can be clearly demonstrated to: a) "contain information needed to answer important

scientific research questions and that there is a demonstrable public interest in that information; b) has a special or particular quality such as being the oldest of its type or best available example of its type or c) it is directly associated with a scientifically recognized important prehistoric or historic event or person."

Methodology

Dokken Engineering cultural resources staff conducted archaeological investigations for the City of Rancho Cordova Routine Maintenance Agreement. Archaeological investigations included reviewing archaeological site records and survey reports on file at the North Central Information Center (NCIC) at California State University, Sacramento in July 2014. The records search involved noting which portions of the streams and stormwater drainage systems within Rancho Cordova have been previously subjected to archaeological field surveys and which portions are located within fifty feet of documented archaeological or historical resources.

In addition, the anticipated routine maintenance activities were divided into two groups, Above Ground Maintenance Activities and Below Ground Maintenance Activities. These two groups are defined below. Based on NCIC archaeological information and the types of anticipated routine maintenance activities, portions of the maintenance areas within the City which have not yet been subjected to an archaeological survey or which are near recorded archaeological resources have been classified as Category A:

Category A: Below Ground Maintenance Activities allowed following Archaeological Survey and/or Evaluation. Above Ground (No Below Ground) Maintenance Activities Allowed.

In routine maintenance areas not classified as Category A, both Above Ground Maintenance Activities and Below Ground Maintenance Activities are permitted as these areas have been previously subjected to archaeological surveys and were not determined to be archaeologically sensitive.

Setting

Prehistory

Prehistoric sequences for the San Joaquin Valley have not been fully developed. Instead, sequences generated for the Sacramento Valley are used with the acknowledgement that a wide range of local and regional traditions are not incorporated. More recently a simple classification, originally developed by Fredrickson's adaptation of the Willey and Phillips period and stage integrative scheme, has been refined to include further divisions based on radiocarbon determinations of sites within the San Joaquin Valley. Developed by Rosenthal et al. (2007), the prehistoric sequences are divided into the following: Paleo-Indian (11,500-8550 cal B.C.), Lower Archaic (8550-5550 cal B.C.), Middle Archaic (5550-550 cal B.C.), Upper Archaic (550 cal B.C. to cal A.D. 1100), and Emergent (cal A.D. 1100 to Historic).

Paleo-Indian (11,500-8550 cal B.C.)

Not much is known from this era, as few sites can actually be confirmed. Currently, the southern basin of the Central Valley is believed to have very early occupation as indicated by the basally thinned and fluted projectile points found at a handful of sites. These types of projectile points are found in other parts in North America and have been dated to the interval between 11,550 and 9550 cal B.C (Rosenthal et el. 2007). It is

also believed that early occupation could have occurred at the Witt site (KIN-32) which contained hundreds of early concave base points along a remnant shoreline of Tulare Lake. Additional early sites discoveries are needed to better define this era.

Lower Archaic (8550-5550 cal B.C.)

This period is defined by only a few isolated finds and one site, KER-116, associated with deeply buried soil on the ancient shoreline of Buena Vista Lake. Artifacts include stemmed points, chipped stone crescents, concave base points, wide stemmed points, and bi-pointed "humpies" (most likely used in light-duty woodworking tasks), all discovered within the Tulare Lake basin (Rosenthal et al. 2007). Other points found within the Tulare Basin include Lake Mojave, Silver Lake, and Pinto points similar to those found in the Great Basin. KER-116 produced few finds but included stone crescents, stemmed projectile point fragment, a carved stone atlatl spur, human skull fragments, and evidence of fresh water fish, waterfowl, freshwater mussels, and artiodactyl exploitation. As neither milling tools no seeds were recovered, plant use remains unknown during this period in the valley. However, numerous milling tools (handstones, millingslabs, cobble-core tools) have been recovered from sites in the Sierra Nevada and Cost Range foothills which indicate that adjacent populations were indeed exploiting plants as an important resource (Rosenthal et al. 2007). The relationship between the valley cultures and the foothill cultures continues to remain unknown until more archaeological sites are found. As with the Paleo-Indian period, no burial preferences are known and no evidence of housing has yet to be encountered.

Middle Archaic (5550-550 cal B.C.)

During this period, the wetter, cooler climate of the Pleistocene/Holocene transition is replaced by warmer and drier conditions. Desiccation of Tulare Lake occurs, but new wetland habitat forms in the Central Valley as rising sea levels create the Sacramento-San Joaquin Delta. Unlike the two previous periods, much more is known about the cultures during the Middle Archaic and there appear to be two distinct cultural traditions based on settlement-subsistence adaptations – the foothill traditions and the valley traditions (Rosenthal et al. 2007).

The Foothill Tradition deposits are characterized by expedient cobble-based pounding, chopping, scraping, and mulling tools. Evidence from CAL-789, CAL-629/630 and FRE-61 has revealed that acorn and pine nuts were the main plant food exploited. Projectile points include notched, stemmed, thick-leaf, and narrow concave base darts. Assemblages seem to only include flake and/or groundstone utilitarian tools used in food procurement and processing. No bone or shell tools or ornamentation have been identified. Earth ovens and hearths are common and several burials capped by cairns of unmodified rock and/or milling equipment have been encountered (Rosenthal et al. 2007).

Evidence of the Valley Tradition is scarcer due to the geomorphic changes that occurred through the valley during the Pleistocene/Holocene transition. Few isolated artifacts and four sites comprise the total body of evidence for the culture during the early Middle Archaic. The later portions of the Middle Archaic have significantly more associated sites and showcase diverse material culture. Assemblages point to an adaptive pattern of extended inhabitation along major watercourse corridors. Material culture include mortar and

pestles, gorge hooks, composite bone hooks, spears (fishing), notched pebble net sinkers, leaf-shaped points, martis corner-notched point, contracting-stemmed points, basketry, basketry awls, pottery and baked clay objects, stone plummets, bird bone tubes, shell and obsidian beads, and other personal ornamentation (Rosenthal et al. 2007). Faunal assemblages reveal exploitation of diverse ecosystems which include marshes, riparian forests, and grasslands. Lastly, there are numerous burials recovered from this period. The Windmiller Pattern is very prevalent and consists of westerly oriented, and ventrally and dorsally extended burials. Included with the burials are extensive grave offerings. While certainly not the most prominent example of burials, flexed burials are not uncommon (Rosenthal et al. 2007).

Upper Archaic (550 cal B.C. to cal A.D. 1100)

This period corresponds with the abrupt return to cooler, wetter climate conditions seen in the late Holocene. Tulare Lake filled as did many other lakes that were desiccated during the Middle Archaic. Cultural diversity is even greater during this time period than before and is marked by burial postures, artifact styles and other material culture (Rosenthal et al. 2007). Different geographic areas witnessed slightly different material cultures or resource dependence, but in general, this time period experienced new tool technology and settlement preferences. New bone tools and implements are present and reliance on manufactured goods such as beads obsidian bifacial rough-outs, and ceremonial blades are evident. Many sites show a preference for seasonal food resources that could be collected and stored in bulk, such as acorns, salmon, shellfish, rabbits, and deer (Rosenthal et al. 2007). Settlements are marked by large mounded villages with fire-cracked rock, shallow hearths, rock-lined earth ovens, and house floors. While evidence of somewhat large settlements is present, more seasonal habitation also occurs. Flexed burials become more common as this preference slowly phased out the Windmiller Pattern (Rosenthal et al. 2007).

Emergent (cal A.D. 1100 to Historic)

Several patterns have been identified during the Emergent period, including the Augustine Pattern in the lower Sacramento Valley and the Sweetwater and Shasta Complexes in the northern Sacramento Valley. No such formal pattern has been established for the San Joaquin Valley as of yet. In general though, archaic material culture assemblages are replaced by those used during contact with Europeans (Rosenthal et al. 2007). Settlements become much larger and are located at places along watercourses where fish weirs had been constructed (Rosenthal et al. 2007). Material culture appears to be defined by two broad phases: the Lower Emergent and the Upper Emergent. The Lower is defined by the appearance of banjo-type Haliotis ornaments as well as elaborately incised bird bone whistles and tubes, flanged soapstone pipes, and rectangular Olivella sequin beads (Rosenthal et al. 2007). The Upper is defined by small corner-notched and desert series points, Olivella lipped and clam disk beads and bead drills, magnesite cylinders, and hopper mortars. Village sites roughly corresponding to later known ethnographic settlements is also prevalent (Rosenthal et al. 2007).

Diverse material culture is abundant throughout the Emergent period and includes new types of tools and technologies such as the bow and arrow. Other tools include harpoons, fish hooks, netting, basketry, pottery (Cosumnes brownware), baked clay balls, human and animal baked clay effigies, serrated points, Panoche side-notched point, cottonwood points, Gunther-barbed points, and Desert side-notched points. Plant

exploitation is still very prevalent with countless mortars and pestles found in assemblages. Burial preferences continue to diversify during the Emergent period and contain various postures. Most contain grave offerings consisting of both utilitarian and decorative items, with some being ritually "killed" before burial.

Ethnography

Prior to the arrival of the Euro-Americans in the regions, California was inhabited by groups of Native Americans speaking more than 100 different languages and occupying a variety of ecological settings. The City of Rancho Cordova is located with a portion of the region ethnographically inhabited by the Nisenan, or Southern Maidu. The Yuba, Bear, and American Rivers and the lower drainages of the Feather River delineated the Nisenan territory.

Ethnographically, the area of the APE is attributed to the Nisenan (Southern Maidu) people. Nisenan is a Penutian language with many local dialects, including Valley Nisenan, Oregon House, Auburn, Clipper Gap, Nevada City, Colfax, and Placerville (Shipley 1978:83). The territory of the Nisenan consisted of the drainages of the Feather and American Rivers; from the crest of the Sierra Nevada in the east to the Sacramento River in the west; as far south as the Cosumnes River; and north to the divide of the North Fork of the Yuba River and Middle Fork of the Feather River. The nearest ethnographic village to the APE was called Sekumni, situated on the north bank of the American River (Wilson and Towne 1978:387-388).

The Nisenan lived in semi-permanent settlements situated on natural ridges, knolls, and benches located near small streams and tributaries of major rivers (Maniery and Maniery 2014). If suitable elevated land was not available in areas along the lower reaches of the American or Cosumnes rivers, artificial mounds were sometimes constructed to keep dwellings above the flood waters (Maniery and Maniery 2014). Such efforts were saved for selection of permanent settlements located near reliable food and water supply. Permanent settlements consisted of one village, or a number of smaller villages clustered around a large village. The distance between villages was small, often only two or three miles apart (Maniery and Maniery 2014). Despite the close distance between villages, territorial rights existed and mainly consisted of the land located immediately around the village. The village claimed exclusive rights to the food resources within that area (Maniery and Maniery 2014).

Family groups often lived away from the main village and had seasonal camps for resource procurement. The Nisenan settlement system also had quarries, ceremonial grounds, fishing stations, and cemeteries (Wilson and Towne 1978:388-389). The Nisenan lived in houses that were conical-shaped with coverings of bark slabs, skins, and brush. Skins and tule mats were used for bedding, and deerskins were used as covers (Kroeber 1925:409). Brush shelters were used in the summer and during gathering excursions. Most villages had bedrock mortar sites and acorn granaries (Wilson and Towne 1978:388-389).

The Nisenan relied heavily on acorns, local game, and fish for subsistence. Acorns were gathered communally or individually. Family groups migrated to high-elevation camps during the spring, summer, and early fall to collect resources which could then be prepared and stored for the winter (Kroeber 1925:409-411; Maniery and Maniery 2014; Wilson and Towne 1978:388). Acorn granaries were constructed from wooden

pole and oak branch frame, bound by grapevines (Maniery and Maniery 2014). Deer, bear, salmon, birds, and rabbits were also important in the Nisenan diet, along with insects such as grasshoppers, crickets, and locusts. Deer hunting often took place over a week by groups working in hunting relays. Smaller game were flushed into nets and killed. Insects were caught in fields and either eaten whole, crushed into a small cake, or cooked like mush (Maniery and Maniery 2014). Fish were collected through the use of weirs, nets, harpoons, traps, and gorgehooks (Maniery and Maniery 2014). Freshwater mussels and eels were also important additions to the diet. In addition to the main dietery staples, Nisenan diet was supplemented with a variety of berries, wild plums, grapes, pine nuts, buckeye, clover, and various roots and bulbs (Kroeber 1925; Maniery and Maniery 2014; Wilson and Towne 1978).

Stone tools used by the Nisenan included knives, projectile points, arrow straighteners, scrapers, pestles, mortars, and pipes. The raw materials for these tools included basalt, steatite, chalcedony, jasper, and obsidian (Wilson and Towne 1978:391). Wooden digging sticks were used for procuring roots and other food resources, and wooden mortars were used for food preparation (Kroeber 1925:413-414). Tule was used for mats, netting, fish nets, and for canoes. Willow and redbud were preferred materials for weaving baskets. Baskets were used for food storage and cooking, cradles, seed beaters, and cages (Wilson and Towne 1978:391).

History

The Sacramento area underwent a population explosion when miners flocked to the American River with the discovery of gold at Sutter's Coloma sawmill in January 1848 (Jones 1991). They quickly established mining camps in the vicinity of modern day Rancho Cordova (Jones 1991). The placer claims were located next to the American River and its creeks and much of the gold was located using crude placer mining methods. As mining operations became more sophisticated, ditches were constructed by local water companies to deliver water to gold bearing deposits mined through the use of ground sluicing and hydraulic mining (Jones 1991). The Natoma Water and Mining Company, an association formed in 1851, operated many of the ditches in the Rancho Cordova area. By the 1880s their system of ditches included 20 miles of main canal and 50 or more, smaller branch ditches which served approximately 1,000 to 2,000 miners around the area (Jones 1991; Windmiller et al 1997). By 1865 most of the shallow gold deposits were depleted and drift mining resumed until the late 1890's.

As gold mining became less profitable, many miners turned to agriculture. The rush of gold miners infused the area with a heterogeneous mix of people and this helped to develop new methods of agricultural and ranching (Jones 1991). Instead of the ubiquitous barley grain crop grown almost exclusively by California farmers, wheat, grapes, and other fruit were cultivated beginning in the 1860s. Ranchers introduced beef cattle and dairy cows and in an attempt to maintain a healthy herd, modern feeding and breeding techniques were adopted and pastures were fenced and irrigated (Jones 1991). The rising need for irrigation for both agricultural and ranching practices during this period provided revenue for the water companies which had been severely impacted by the decline in mining.

The northern portion of Rancho Cordova area was part of the Rancho Rio de Los Americano land grant, given to William Leidesdorff by Governor Manuel Micheltorena in 1844. Joseph Libby Folsom purchased the land grant in 1849 from Leidesdorff's mother, Anna Spark. Due to a series of legal questions stemming from cession of California to the United States, ownership of the land grant was not made legal until 1855. Joseph Libby Folsom hired engineers to survey the area near the mining camp of Negro Bar for a railway and townsite he wished to name "Granite City" (Egherman and Hatoff 2002), but was renamed Folsom in his honor. In February of 1856, the Sacramento Valley Railroad constructed a route from Sacramento to Folsom, the first commercial railroad west of the Mississippi (Jones 1991) and it ran through the area of Rancho Cordova.

The City of Rancho Cordova was not incorporated as a city until 2003, before which it was part of unincorporated Sacramento County. The area around Rancho Cordova had many names, including Mayhew's Crossing, Hangtown Crossing, Mayhew Station, Mills Station, Cordova Vineyards, and Cordova Village until it was officially named Rancho Cordova in 1955 when the first post office was established. The name "Rancho Cordova" is a nod to the Cordova Vineyards that was in the center of the Rancho Rio de los Americanos land grant.

Rancho Cordova was slow to develop into an urban area. Up until the 1940s, the area supported agricultural land with few homes, and much of the eastern portion of the city was dominated by dredge tailings from gold mining. Located directly between Sacramento and Folsom, the area served as a thoroughfare between the two cities. Routier Station (est. 1871) and Mills Station (est. 1911) served as rest stops along present day Folsom Boulevard. With Mather Air Force Base re-established as a primary training facility for the Army Air Corp in 1941 (the base was initially established in 1917, but was closed during most of the 1920s and was used as a support post/auxiliary landing area to other air bases during the 1930s) there was a growing need to house airman and other base personnel as the 1,000 homes at Mather were insufficient.

The establishment of Aerojet in the eastern end of Rancho Cordova along with the Cold War build up of Mather Air Force Base increased the need for housing within Rancho Cordova. Small housing developments between continued to be constructed starting in the area between Folsom Boulevard and the American River, followed by the area between Folsom Boulevard and US-50, and then the areas south of US-50.

Discussion

a -b Less than Significant Impact with Mitigation Incorporated. Based on the data collected at the NCIC, some portions of the routine maintenance area have not been previously surveys and some are near recorded archaeological resources. Some routine maintenance activities have the potential to harm archaeological or historic period resources, assuming such resources are present, if the appropriate mitigation measures are not followed. At these portions, activities that take place above or on the ground surface do not have the potential to harm these resources and activities that require below ground (any type of excavation or earth movement) do have the potential to harm historical or archaeological resources.

Above Ground (no excavation) Maintenance Activities consist of the following: removing debris, modern trash, downed trees (grinding of tree stumps is permitted; root ball removal is prohibited), beaver dams, woody and herbaceous vegetation and branches obstructing channels or streams; mowing or cutting weeds, grasses, shrubs and woody undergrowth; removing or replacing manhole covers, and above ground utilities; dewatering waterways; and washing, painting, and cleaning bridges, culverts, and miscellaneous structures.

Below Ground Maintenance Activities consist of the following: mechanically (including the use of backhoes, excavators, dump trucks, skip loaders, front loaders, bulldozers, etc.) altering vegetation, the ground surface, or dirt such as removing deposited sediment, repairing and/or maintaining erosion control, or channel alignment maintenance, etc.; removing standing dead or living trees in danger of falling in or across streams (including root ball removal); removal or replacement of culverts, inlets, and other miscellaneous structures; converting concrete-lined channels to a natural state; collecting core samples; and installation of rock slope projection armoring, rock gabions, and/or sacked concrete/rocks.

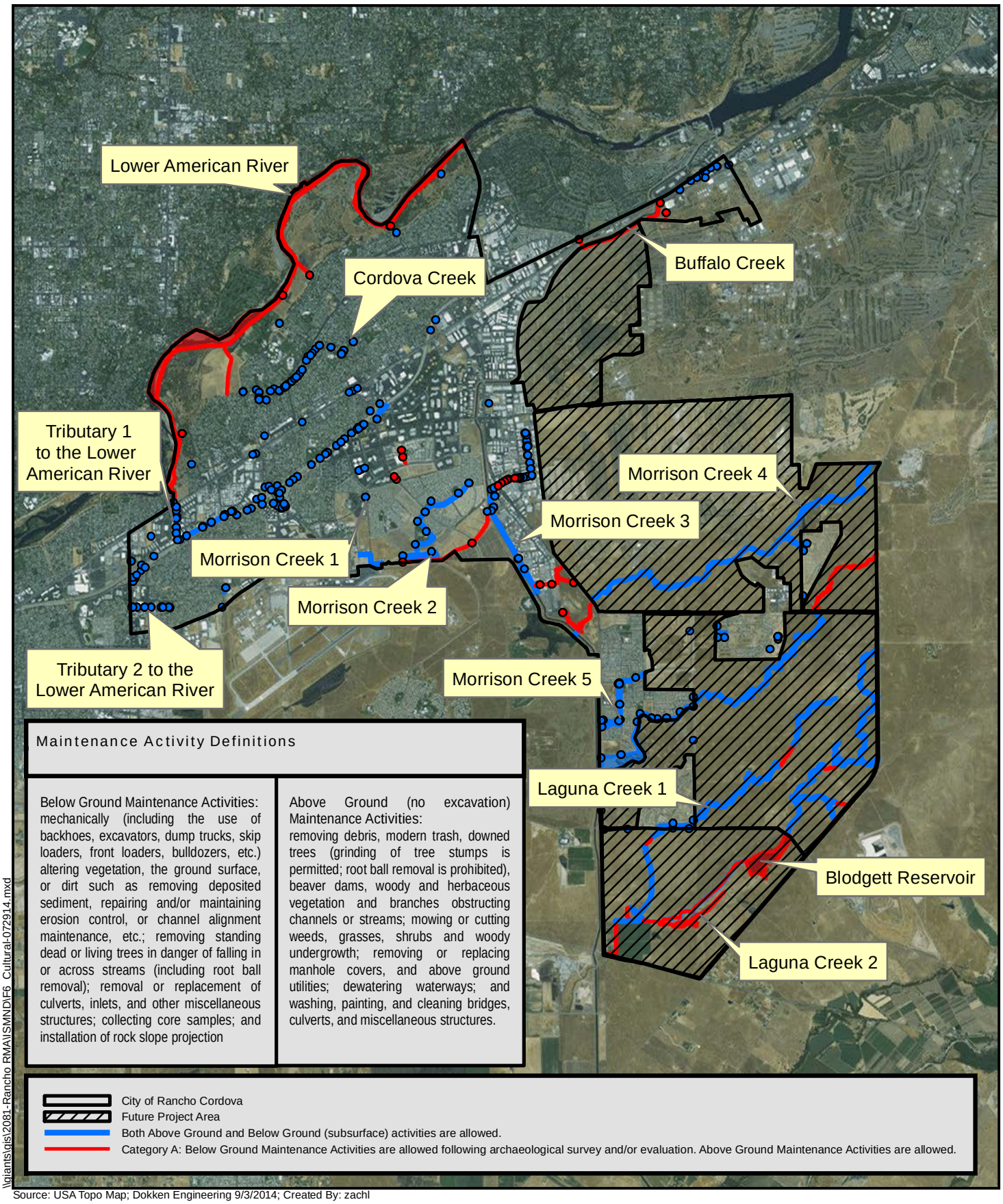
Based on the data collected at the NCIC and the types of routine maintenance activities, those portions of the routine maintenance area which have not been previously surveyed and/or which are situated near recorded archaeological resources have been classified as Category A and defined below under **CR-1.** These areas are depicted on Figure 6 (a larger version of Figure 6 is included in a pocket of this document) and correspond with Table 3 below. For all routine maintenance areas not classified as Category A, both Above Ground and Below Ground Maintenance Activities are allowed.

Table 3: Cultural Resource Mitigation Measures

Category	Mitigation Measure
A	-Above Ground (no excavation) Maintenance Activities may proceed as needed. -Areas which require Below Ground Maintenance Activities must first be surveyed by an archaeologist who meets the Secretary of the Interiors Professional Qualification Standards in Archaeology. -If the area is deemed sensitive for cultural resources, only Above Ground Maintenance Activities are allowed. If no cultural resources are located, Below Ground Maintenance Activities may proceed as needed.

Adherence to mitigation measures **CR-1, CR-2, CR-3, CR-4,** and **CR-5** would ensure the project shall not impact the significance of an historical or archaeological resource.

c. No Impact. The possibility of a paleontological discovery is unlikely because project maintenance activities largely consist of above ground maintenance or stream sediment removal. However, there is a possibility of unanticipated and accidental paleontological discoveries during ground-disturbing project-related activities. Unanticipated and accidental paleontological discoveries during project implementation have the potential to affect significant paleontological resources. If paleontological resources are found, all work in the area would stop until a qualified paleontologist completes a determination of their significance.



\\giants\gis\2081-Rancho RMA\SWMD\F6_Cultural-072914.mxd

Source: USA Topo Map; Dokken Engineering 9/3/2014; Created By: zachl

0 0.5 1 1.5 2 Miles

FIGURE 6

Cultural Mitigation Meaure CR-1 Defined Areas

City of Rancho Cordova Stormwater Management Project

City of Rancho Cordova, Sacramento County, California

d. Less than significant with mitigation incorporated. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission who would then notify the Most Likely Descendent. Further provisions of PRC 5097.98 are to be followed as applicable.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and/or minimization measures would be incorporated to minimize potential impacts:

CR-1: In routine maintenance areas classified as Category A, Below Ground Maintenance Activities are permissible only if first surveyed by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology first completes a pedestrian field and/or evaluates present archaeological resources. Above Ground Maintenance activities are allowed.

CR-2: The City would provide training to distinguish modern period trash from historic period trash. An archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall prepare and conduct the training.

CR-3: Additional archaeological survey would be needed if project limits are extended beyond the present survey limits. If routine maintenance activities have the potential to impact structures (bridges, buildings, etc.) the resource must be surveyed and potentially evaluated by an architectural historian.

CR-4: If previously unidentified cultural materials are unearthed during maintenance activities, work shall be halted in that area until an archaeologist meeting the Secretary of the Interiors Professional Qualification Standards in Archaeology can assess the significance of the discovery and develop a plan for documentation and removal of resources, if necessary.

CR-5: If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. PRC Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission who would then notify the Most Likely Descendent. Further provisions of PRC 5097.98 are to be followed as applicable.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS - Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii. Strong seismic ground shaking?				X
iii. Seismic-related ground failure, including liquefaction?				X
iv. Landslides?				X
b. Result in substantial soil erosion or the loss of topsoil?			X	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion

a.i-iv. No Impact. The project would not expose people or structures to potential substantial or adverse effects based on the following:

i. California Department of Conservation (CDC) California Geological Survey does not list Sacramento County as affected by the Alquist-Priolo Earthquake Fault Zone. According to the Fault Activity Map of California and Adjacent Areas, no active faults are located in the City (Bryant 2005, CDC 2007).

ii. The proposed project would not expose people or structures to seismic ground shaking due to the lack of active faults within the City and the nature of the proposed project activities (Bryant 2005, CDC 2007). Specifically, the project would be performing routine maintenance on existing structures and would not involve the construction of new structures which would regularly be occupied by people.

iii. Given the project would be performing routine maintenance on existing structures, the project would not create ground failure or liquefaction.

iv. The CDC does not list Sacramento County as an area at risk for Landslides as identified in the California Department of Transportation's (Caltrans) Highway Corridor Mapping project (CDC 2007). In addition, the project would be performing routine maintenance on existing structures within the City's creeks and drainages and therefore would not create a substantial risk of landslides.

b. Less than Significant. Routine channel maintenance activities could disturb land and result in some soil and sediment removal, cut and fill, debris and obstruction removal and other ground disturbing activities. However, as described in the project description, among the main objectives of the project is to perform tasks such as bank stabilization, and repair of previous erosion control work which would be performed to improve water flow and minimize erosion concerns under the existing conditions. In addition, work included in routine channel maintenance activities would minimize soil and habitat disturbances through use of small construction equipment or hand tools used in the channel or on the channel banks. The proposed project would limit the amount of fill or sediment removal that can occur below the ordinary high water mark at any single location. In addition, should gunite is to be used, it would only be used at locations where it would not enter or be washed into a stream. Since the City is a joint participant of Sacramento County's National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit No. CAS082597, the project would also be required to comply with the County's NPDES for discharges of urban runoff from Municipal Separate Storm Sewer Systems (MS4s). Further, the project must comply with the Stormwater Quality Improvement Plan (SQIP), which would adequately control erosion. Therefore, potential adverse impacts from soil erosion are considered less than significant.

c. No Impact. Refer to section a.i-iv. Routine channel maintenance activities are not located on an unstable geologic or soil unit. There is no potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

d. No Impact. Routine channel maintenance activities are not located on expansive soils. The construction of buildings or structures is not included as a part of routine channel maintenance activities.

e. No Impact. The proposed project would not use a septic tank system. Sewage is not required for routine channel maintenance activities.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and/or minimization measures would be incorporated to minimize potential impacts:

GEO-1: Work included in routine channel maintenance activities would minimize soil and habitat disturbances through use of small construction equipment or hand tools used in the channel or on the channel banks. The proposed project would limit the amount of fill or sediment removal that can occur below the ordinary high water mark at any single location. In addition, should gunite is to be used, it would only be used at locations where it would not enter or be washed into a stream. Since the City is a joint participant of Sacramento County's National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit No. CAS082597, the project would also be required to comply with the County's NPDES for discharges of urban runoff from Municipal Separate Storm Sewer Systems (MS4s). Further, the project must comply with the Stormwater Quality Improvement Plan (SQIP), which would adequately control erosion.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS - Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Setting

Global Warming is a public health and environmental concern around the world. As global concentrations of atmospheric greenhouse gases (GHG) increase, global temperatures increase, weather extremes increase, and air pollution concentrations increase. Global warming has been observed to contribute to poor air quality, rising sea levels, melting glaciers, stronger storms, more intense and longer droughts, more frequent heat waves, wildfires, and other threats to human health (ALA California 2011; IPCC 2007). From 1994 through 2006, eleven of those twelve years rank among the 12 warmest years on record (since 1850), with the warmest two years being 1998 and 2005 (IPCC 2007). Hotter days facilitate the formation of ozone, increases in smog emissions, and increases in public health impacts (e.g., premature deaths, hospital admissions, asthma attacks, respiratory conditions, and acute bronchitis) (ALA California 2011). Global temperatures have risen by 1.3ºF over the past century, and if GHG emissions continue to increase, climate models predict that the average temperature at the Earth's surface could increase by 2 to 11.5ºF by the year 2100 (IPCC 2007).

Because reducing GHG emissions is very important to reduce the potential impacts of climate change, California has adopted AB 32, the Global Warming Solutions Act of 2006. The CARB is in the process of implementing a comprehensive, multi-year strategy to reduce GHG emissions. The state Attorney General's Office has identified various measures for all development types that may reduce the global warming impacts at the individual project level. The various measures include the following list categories:

- Energy Efficiency
- Renewable Energy and Energy Storage
- Water Conservation and Efficiency
- Solid Waste Measures
- Land Use Measures
- Transportation and Motor Vehicles
- Agriculture and Forestry

The Attorney General's Office also suggests that if, after analyzing and requiring all reasonable and feasible on-site mitigation measures for avoiding or reducing GHG-related impacts, the lead agency determines that additional mitigation is required, the agency may consider additional off- site mitigation (California Attorney General's Office 2010).

Table 4 lists 2008 California GHG emissions estimated by CARB based on carbon dioxide (CO_2) equivalent emission rates. California CO_2 equivalent emissions were approximately 454.01 million tons in 2009. As shown in the table, over 37 percent of GHG emissions from within California occur from transportation, and 22 percent occur from electric power.

Table 4: California 2009 Greenhouse Gas Emissions Inventory - Gross Emissions and Sinks

Category	CO_2 Equivalent (million tonnes)	Percent Total (of gross)
Transportation	173.34	37.9
Electric Power	103.58	22.6
Agriculture	32.81	7.2
Commercial and Residential	42.61	9.3
Industrial	83.60	18.3
Recycling and Waste	6.94	1.5
High GWP[1]	14.76	3.2
Forestry	0.19	0.0
Total (gross)	*457.83*	*100.00*
Sinks and Sequestrations	-3.81	--
Total (net)	**454.01**	--

1 Includes Ozone Depleting Substance Substitutes, Electricity Grid SF6 Losses, and Semiconductor Manufacturing.
Source: (CARB 2010)

The earth naturally absorbs and reflects incoming solar radiation, and emits longer wavelength terrestrial (thermal) radiation back into space. On average, the absorbed solar radiation is balanced by the outgoing terrestrial radiation emitted to space. A portion of this terrestrial radiation, though, is itself absorbed by gases in the atmosphere. The energy from this absorbed terrestrial radiation warms the earth's surface and atmosphere, creating what is known as the "natural greenhouse effect." Without the natural heat-trapping properties of these atmospheric gases, the average surface temperature of the earth would be below the freezing point of water (IPCC 2007). Although the earth's atmosphere consists mainly of oxygen and nitrogen, neither plays a significant role in this greenhouse effect because both are essentially transparent to terrestrial radiation. The greenhouse effect is primarily a function of the concentration of water vapor, carbon dioxide, methane (CH_4), nitrous oxide (N_2O), ozone, and other trace gases in the atmosphere that absorb the terrestrial radiation leaving the surface of the earth (IPCC 2007). Changes in the atmospheric concentrations of these s can alter the balance of energy transfers between the atmosphere, space, land, and the oceans. Radiative forcing is a simple measure for both quantifying and ranking the many different influences on climate change; it provides a limited measure of climate change because it does not attempt to represent the overall climate response (IPCC 2007). Holding everything else constant, increases in GHG concentrations in the atmosphere would produce positive radiative forcing (i.e., a net increase in the absorption of energy by the earth) (EPA 2010 and 1999).

Naturally occurring GHGs include water vapor, CO_2, CH_4, N_2O, and ozone. Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, emitted solely by human activities. There are also several gases that, although they do not have a direct radiative

forcing effect, do influence the formation and destruction of ozone, which does have such a terrestrial radiation absorbing effect. These gases, referred to here as ozone precursors, include carbon monoxide, NO_x, and non-methane volatile organic compounds. Aerosols (extremely small particles or liquid droplets emitted directly or produced as a result of atmospheric reactions) can also affect the absorptive characteristics of the atmosphere (EPA 2010).

Regulatory Framework Relating to Greenhouse Gas Emissions

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California, and for implementing the CCAA. Various statewide and local initiatives to reduce the state's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long-term. Because every nation emits GHGs, and therefore makes an incremental cumulative contribution to global climate change, cooperation on a global scale would be required to reduce the rate of GHG emissions to a level that can help to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

There are numerous laws that have been signed into effect in California in efforts to reduce GHG emissions. Assembly Bill (AB) 1493 (signed in 2002) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state." To meet the requirements of AB 1493, in 2004 CARB approved amendments to the California Code of Regulations (CCR) adding GHG emissions standards to California's existing standards for motor vehicle emissions.

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

In September 2006, Governor Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction would be accomplished through an enforceable statewide cap on GHG emissions that would be phased in starting in 2012. As stated in its September 2010 progress report, 40 percent of reductions identified in the Scoping Plan have been secured through CARB actions.

SB 97, signed August 2007, acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the State Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA by July 1, 2009. The Resources Agency certified and adopted those guidelines on December 30, 2009. On February 16, 2010, the Office of Administrative Law

approved the Amendments, and filed them with the Secretary of State for inclusion in the CCR. The Amendments were made effective March 18, 2010. The amendments contain changes to fourteen sections of the existing guidelines, including: the determination of significance as well as thresholds; statements of overriding consideration; mitigation; cumulative impacts; and specific streamlining approaches. The amendments also include an explicit requirement that EIRs analyze GHG emissions resulting from a project when the incremental contribution of those emissions may be cumulatively considerable.

Discussion

a. Less-than-Significant Impact. Short-term, negligible GHG emissions would result from construction equipment and worker vehicles. Worker vehicles would be limited to the minimum necessary, which would have a less-than-significant impact to generation of GHG emissions in the region.

b. Less-than-Significant Impact. While the City has not adopted a Climate Action Plan, or specific GHG reductions measures, provisions of the Green Building Standards Code and the Energy Code adopted by the City would be implemented as pertinent (City of Rancho Cordova 2014a, 2014b).

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS - Would the project:**				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Setting

The State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by state, local agencies, and developers to comply with the CEQA requirements in providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal-EPA) to annually update the Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list. EnviroStor Database is compiled by the DTSC to identify and track potential hazardous waste sites. Searches of the above resources identified 13 sites (DTSC 2014) within the City limits known to handle and store hazardous materials and are associated with a hazardous material related release or occurrence. These results are identified in Table 5: Hazardous Site List in the City. The terms "release" or "occurrence" include any means by which a substance could harm the environment by spilling, leaking, discharging, dumping, injecting or escaping. It should be noted that none of the project facilities are on the "Cortese List."

Table 5: Hazardous Site List in the City

SITE/FACILITY NAME	*ESTOR / EPA ID*	*PROGRAM TYPE*	*STATUS*	*Address*
WHITE ROCK DUMP NORTH - SACTO CO. SWDS	34490002	EVALUATION	REFER: RWQCB	WHITE ROCK ROAD AT GRANTLINE ROAD, RANCHO CORDOVA
AMERICAN ENVIRONMENTAL CORP	CAD067825364	NON-OPERATING	NON-OPERATING	11855 WHITE ROCK RD, RANCHO CORDOVA
AEROJET GENERAL CORPORATION	34370002	FEDERAL SUPERFUND	ACTIVE	HIGHWAY 50 AND AEROJET ROAD, RANCHO CORDOVA
GENERAL ELECTRIC MEDICAL SYSTEMS	80001343	CORRECTIVE ACTION	NO ACTION REQUIRED	3920 SECURITY PARK, RANCHO CORDOVA
MCDONNELL DOUGLAS - INACTIVE TEST SITE	34370069	STATE RESPONSE	ACTIVE	11505 DOUGLAS RD, RANCHO CORDOVA
AEROJET-GENERAL CORPORATION	80001284	CORRECTIVE ACTION	REFER: SMBRP	HWY US 50 & AEROJET RD, RANCHO CORDOVA
AEROJET ROCKETDYNE, INC.	CAD000030494	OPERATING	OPERATING PERMIT	US HWY 50 & AEROJET RD, RANCHO CORDOVA
GENERAL ELECTRIC MEDICAL SYSTEMS	CAD000819680	NON-OPERATING	CLOSED	3920 SECURITY PARK, RANCHO CORDOVA

WHITE ROCK DUMPS 1 AND 2	60001748	STATE RESPONSE	ACTIVE	WHITE ROCK DUMPS (WRD) 1 AND 2 ARE LOCATED ON AEROJET PROPERTY.WRD 1, SOUTH OF WHITE ROCK ROAD ON THE INACTIVE RANCHO CORDOVA TEST SITE (IRCTS). WRD 2, NORTH SIDE OF WHITE ROCK ROAD., RANCHO CORDOVA
ANATOLIA II ELEMENTARY SCHOOL	60002009	SCHOOL INVESTIGATION	ACTIVE	SOUTHWEST CORNER OF APPOLON DRIVE AND SOPHISTRY DRIVE, RANCHO CORDOVA
BROWNING FERRIS IND	80001770	CORRECTIVE ACTION	NO ACTION REQUIRED	11875 WHITE ROCK RD, RANCHO CORDOVA
GEM OF RANCHO CORDOVA LLC	80001756	CORRECTIVE ACTION	NO FURTHER ACTION	11855 WHITE ROCK RD, RANCHO CORDOVA
GEM OF RANCHO CORDOVA LLC DBA PSC ENVIRONMENTAL SVS OF RANCHO CORDOVA	CAD980884183	OPERATING	OPERATING PERMIT	11855 WHITE ROCK RD, RANCHO CORDOVA
AMERICAN ENVIRONMENTAL CORP	80001465	CORRECTIVE ACTION	NO ACTION REQUIRED	11855 WHITE ROCK RD, RANCHO CORDOVA
ELEMENTARY SCHOOL NO. 42	34010025	SCHOOL INVESTIGATION	NO ACTION REQUIRED	DOUGLAS ROAD/SUNRISE BOULEVARD, RANCHO CORDOVA
B & J MANUFACTURING	34360005	STATE RESPONSE	CERTIFIED	11390 AMALGAM WAY, RANCHO CORDOVA
GOLD RIVER INDUSTRIAL PARK	34340120	EVALUATION	NO FURTHER ACTION	11355 PYRITES WAY, RANCHO CORDOVA
SAFETY-KLEEN RANCHO CORDOVA	80001787	CORRECTIVE ACTION	CERTIFIED	2576 MERCANTILE DR, RANCHO CORDOVA

SUNRISE RIVER INDUSTRIAL PARK	34490055	STATE RESPONSE	CERTIFIED O&M - LAND USE RESTRICTIONS ONLY	GOLD RIVER ROAD AND U.S. HIGHWAY 50, RANCHO CORDOVA
PURITY OIL SALES - DELTA GUNITE	34170001	STATE RESPONSE	ACTIVE	WHITE ROCK ROAD & KILGORE ROAD, RANCHO CORDOVA
VILLAGE OF ZINFINDEL	34470001	VOLUNTARY CLEANUP	NO FURTHER ACTION	3145 KILGORE ROAD, RANCHO CORDOVA
NAVIGATOR ELEMENTARY SCHOOL	34820006	SCHOOL INVESTIGATION	NO ACTION REQUIRED	BEAR HOLLOW DRIVE/ROBOLA WAY, RANCHO CORDOVA
MILLS STATION CROSSING	60001173	EVALUATION	INACTIVE - ACTION REQUIRED	1059 FOLSOM BLVD., 764 EL CAPRICE DRIVE, 1035 FOLSOM BLVD., RANCHO CORDOVA
VETERANS MARTINIZING CLEANERS	34720121	EVALUATION	REFER: RWQCB	10161 FOLSOM BLVD., RANCHO CORDOVA

Source: (DTSC 2014)

Discussion

a-b. No Impact. Routine maintenance activities would not require the transport, use, or disposal of hazardous materials. The proposed project is not anticipated to create a significant hazard to the public or the environment through a reasonably foreseeable accident involving the release of hazardous materials into the environment. The City would prevent chemicals, paint, oil, gas, other petroleum products, and other substances that could be deleterious to aquatic life from contaminating the soil and/or entering waters of the state by immediately removing the hazardous material from any place where it could enter waters, containing any releases or spills of such materials, maintaining vehicles reasonably free of external petroleum residue, and locating staging and storage areas away from the stream and wetland zones.

Those activities involving hazardous materials would be required to comply with all local, state, and federal standards associated with the handling of hazardous materials including, but not limited to, the City's NPDES permit and SQIP.

c. No Impact. While routine maintenance activities may occur within ¼ mile of local schools, the proposed routine maintenance activities would not involve the use or handling of hazardous or acutely hazardous materials, substances, or waste.

d. No Impact. The routine maintenance activities would occur along levees, creeks, basins and drainages. No potential project activities would occur at sites included on a list of hazardous materials sites listed on

Table 5 from EnviroStor; therefore, no impact would occur (DTSC 2014). Work may occur in channels that receive water from the groundwater extraction and treatment (GET) facilities, which were installed to remediate contaminated groundwater from Aerojet; however, this water has been treated and is not considered a significant hazard to the public.

e-f. No Impact. The project areas are not located near an airport or airstrip. Since the project sites are not located within two miles of an airport or an area for which an Airport Land Use Plan has been prepared, and no public or private airfields are within two miles of the project areas, users of the proposed project would not be exposed to hazards due to over flight aircraft. Thus, no significant impact would occur, and no mitigation would be necessary.

g. No Impact. The project areas are not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As set forth in the Sacramento County's Multi-Hazard Disaster Plan, the City maintains pre-designated emergency evacuation routes along major streets and thoroughfares (City of Rancho Cordova 2006). No aspect of the proposed project would modify these streets or preclude their continued use as an emergency evacuation route. The proposed project would not result in an increased concentration of large numbers of persons in any at-risk location, and the proposed project would not have a significant impact on any emergency plans. Thus, no significant impact would occur, and no mitigation would be necessary.

h. No Impact. The proposed project does not present conditions that are subject to wildland fires. There is no potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, no impacts are potential or expected.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIV.	**HYDROLOGY AND WATER QUALITY - Would the project:**				
a.	Violate any water quality standards or waste discharge requirements?			X	
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
e.	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				X
f.	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other food hazard delineation map?				X
g.	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
h.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
i.	Inundation by seiche, tsunami, or mudflow?				X

Setting

The City occurs within the Lower American River Watershed, which is part of the greater Lower Sacramento Watershed (USGS 2014). The major creeks and channels within the City where the routine maintenance activities are anticipated to occur include the following waterways: the Lower American River, Tributaries to the Lower American River 1 and 2, Cordova Creek, Morrison Creek 1 through 5, Laguna Creek 1 and 2, and Buffalo Creek. Runoff from irrigation, groundwater extraction and treatment (GET), groundwater, precipitation, and snowmelt from the Sierra Nevada mountains are the main sources of surface water supply in Rancho Cordova.

Background

The City is a joint participant with Sacramento County's NPDES Municipal Stormwater Permit No. CAS082597. The permit was renewed in September 2008, and allows for the City to discharge urban runoff from Municipal Separate Storm Sewer Systems (MS4s) in their municipal jurisdictions. The permit requires that the City impose water quality and watershed protection measures for all development and municipal project. In compliance with the NPDES permit, the City has established a storm water management program known as the SQIP. The Sacramento SQIP describes the storm water pollution prevention efforts to be implemented by the County of Sacramento and the Cities of Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova. The SQIP activities fall into the following nine main categories: program management, target pollutant reduction, monitoring program, commercial program element, commercial/industrial program element, municipal operations program element, illicit discharge program element, public outreach program element, new development program element.

The municipal operations program element requires a variety of activities to prevent or reduce pollutants in runoff from all municipal land use areas, facilities, and activities. Municipal facilities include buildings, transportation facilities (e.g., roads, roadsides, parking lots, and fleet service areas), and drainage collection and storage systems (e.g., pipes, open channels, storm water detention basins, and roadside ditches). Municipal activities include materials storage and handling, waste storage and disposal, vehicle and equipment washing and maintenance, pipe, channel and basin maintenance, street cleaning, vegetation management, and repair/construction. The SQIP requires that the routine management and operations, maintenance of the storm drain system, streets, and public areas be conducted in a manner that does not inadvertently contribute to pollution within local creeks and rivers.

Discussion

a. Less than Significant Impact. The project would be required to comply with the City's NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit, the SQIP, and the conditions of the CDFW Routine Maintenance Agreement (RMA). The City would perform the maintenance work at a time and in a manner that minimizes adverse impacts to fish and wildlife resources and provides for the protection and continuance of those resources. Specifically, the City would time the maintenance work with an awareness of precipitation and other events that could increase stream flows and an understanding of the amount of time and materials necessary to implement erosion control measures. In addition, the City would cease the maintenance work and implement all reasonable erosion control measures before all storm events. Routine channel maintenance activities would not violate any water quality standards or waste discharge requirements.

b. No Impact. No groundwater wells would be drilled as part of the proposed project. The proposed project would not deplete groundwater supplies or interfere substantially with groundwater recharge that would result in a net deficit in aquifer volume or lowering of the local groundwater table level.

c. Less than Significant Impact. Channel maintenance involves the removal/displacement of silt, sand or sediment in the vicinity of man-made facilities or structures which cause an obstruction to the channel's flow. As a part of this project, temporary stream diversions may be required, which may result in increased erosion and a corresponding increase in siltation within the water. However, any increase in flow velocities due to stream diversions would be temporary and all appropriate BMPs would be employed.

d. Less than Significant Impact. Routine channel maintenance activities would improve drainage and reduce potential flooding impacts by removing obstacles and debris from the channels, including creeks, streams, and natural and man-made drainages within the City. The project would be required to comply with the Sacramento County NPDES permit, the USACE Section 404 Nationwide Permit 3 Maintenance permit, SQIP, and the conditions of the CDFW RMA.

e. No Impact. The proposed project activities would not create or contribute runoff water. Rather, the routine channel maintenance activities would result in improved conveyance of runoff water. The proposed project would not result in additional polluted runoff.

f. No Impact. As a routine maintenance project on existing creeks, channels and basins, the project does not involve housing or exposure of habitable structures to the 100-year flood event.

g. No Impact. Routine maintenance activities do not involve the construction of structures. Maintenance of existing erosion control and new minor erosion control may temporarily impede or redirect water flow during the maintenance activity. However, such items used to temporarily divert flows would be removed upon completion of the maintenance activity. The project would be required to comply with the CDFW RMA conditions, the City NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit and the SQIP.

h. Less-than-Significant. The project area does not include any dams, although dams are found just upstream along the American River. The City is within a dam inundation area. The proposed project would not result in an increased concentration of large numbers of persons in any at-risk location, and the proposed project would not have a significant impact on any emergency plans. In addition, the project would ultimately reduce the potential for flooding by providing sediment removal, vegetation control, and beaver dam maintenance. Thus, no significant adverse impact as a result of the project would occur, and no mitigation is necessary.

i. No Impact. The project does not involve exposure of persons to flooding risks or inundation by seiche, tsunami or mudflows.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**LAND USE AND PLANNING - Would the project:**				
a.	Physically divide an established community?				X
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Setting

A wide range of existing land uses, including residential developments, commercial/retail uses, office uses, industrial uses, agricultural uses, and recreational uses characterize Rancho Cordova. According to the 2007 City Zoning Map, open space, residential and commercial/retail uses were the primary land uses in the City. Institutional uses such as schools, churches, and other public entities also serve as major land uses.

There are a number of large projects underway that would increase the acreage of residential, commercial, school and park uses in the City. While areas east of Sunrise Boulevard are currently being studied for further development within the area, these areas are generally outside the proposed project limits.

Discussion

a. No Impact. All activities would occur within existing levees, detention basins, drainage ways and facilities. Routine channel maintenance activities would not physically disrupt or divide an established community.

b. No Impact. The proposed project would not affect the roadway designation or change the zoning ordinance within the project areas.

c. No Impact. There are no habitat conservation plans or natural community conservation plans existing within the project areas, therefore, the project would not conflict with any existing habitat conservation plan or natural community's conservation plan. Further, routine maintenance activities would have no potential conflicts with the proposed South Sacramento Habitat Conservation Plan.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES - Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Discussion

a-b. No Impact. The proposed project is for maintenance of existing levees, detention basins, drainage features and therefore, would involve removal or fill of limited amounts of sediment. However, routine channel maintenance activities would not result in the loss of known mineral resources or the availability of a mineral resource recovery site.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. NOISE - Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?			X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above level existing without the project?		X		
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project to excessive noise levels?				X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

Setting

City Regulation of the Noise Environment

The City's General Plan Noise Element establishes land use compatibility criteria for both transportation noise sources such as roadways, and for non-transportation (stationary) noise sources. For transportation noise sources, the City establishes a noise level criterion of 60 dB Ldn/CNEL1 or less in outdoor activity areas, and 45 dB Ldn/CNEL or less for interior noise levels (City of Rancho Cordova 2006).

For stationary noise sources, the City has adopted a Noise Ordinance as §6.68 of the Rancho Cordova Municipal Code (City of Rancho Cordova 2014). The Noise Ordinance establishes hourly noise level performance standards, which are most commonly quantified in terms of hourly averages (Leq), and instantaneous maximums (Lmax). Table 6 shows the City's noise level performance standards for stationary noise sources for both day and nighttime periods. Section 6.68.090 E exempts construction noise from the provisions of the Code, provided such activities do not take place before 8:00 a.m. or after 6:00 p.m. on any day except Monday through Friday, or before 8:00 a.m. or after 7:00 p.m. on Saturday or Sunday.

Table 6: Exterior Hourly Noise Level Performance Standards for New Project and Developments in the City

	Maximum Acceptable Noise Level, dBA	
Minutes/Hour of Noise Generation (Ln)	Daytime (7 am - 10 pm)	Nighttime (10 pm - 7 am)
30 (L_{50})	55	50
15 (L_{25})	60	55
5 ($L_{8.3}$)	65	60
1 ($L_{1.7}$)	70	65
0 (Lmax)	75	70

Note: Ln means the percentage of time the noise level is exceeded during an hour. L50 means the level exceeded 50 percent of the hour, L25 is the level exceeded 25 percent of the hour, etc.*Source: (City of Rancho Cordova 2014)*

The standard construction specifications are required to be adhered to by any contractor constructing a public or private project within the City. Standards regarding the noise environment are summarized below.

- *Noise Control* – requires that all construction work comply with the Rancho Cordova Noise Ordinance, and that all construction vehicles be equipped with a muffler to control sound levels.
- *Weekend, Holiday, and Night Work* – Prohibits construction work during evening hours or on Sunday or holidays, to reduce noise and other construction nuisance effects.

Discussion

a. Less-than-Significant with Mitigation Incorporated. Noise may be generated during routine maintenance activities by traffic associated with transport of heavy materials and equipment to and from maintenance sites and the use of motorized equipment during routine maintenance activities. Noise sources such as lawn mowers, grass trimmers, chainsaws, bobcats and backhoes could be used as maintenance tools. This noise increase would be of short duration, and would likely occur primarily during daytime hours. Examples of noise generating actions involved in maintenance activities would generate maximum noise levels, as indicated in Table 7 below, ranging from 71 to 94 dB at a distance of 50 feet. Routine channel maintenance activities would be temporary in nature and are anticipated to occur during normal daytime working hours. The City's General Plan contains a noise standard with a policy setting the limit of acceptable noise within residential land use classifications (as detected at the property line) of 60 dB (City of Rancho Cordova 2006).

Table 7: Typical Maximum Construction Equipment Noise Levels

ID	Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)
1	Pneumatic Tools	78 to 88
2	Pumps	74 to 84
3	Dozers	77 to 90
4	Tractors	77 to 82
5	Front-End Loaders	77 to 90
6	Hydraulic Backhoes	81 to 90
7	Hydraulic Excavators	81 to 90
8	Graders	79 to 89
9	Air Compressors	76 to 89
10	Trucks	81 to 87
11	Scrapers	83 to 91
12	Haul Trucks	83 to 94
13	Portable Generators	71 to 87

Source: (Bolt, Beranek, and Newman 1987).

Project activities could generate temporary noise levels in excess of the above mentioned noise guidelines. Mitigation measures **NOI-1** through **NOI-2** would reduce noise impacts to less-than-significant.

b. Less-than-significant Impact. The proposed maintenance activities would require use of small construction equipment (such as, excavators, backhoes, dump trucks, and bobcats) that would not generate excessive ground borne vibration or noise levels. All potential noise effects to the environment would be temporary.

c. No Impact. The project would likely result in temporary increases in noise from use of small construction equipment for the duration of the maintenance activity. However, the project does not propose to introduce any permanent noise sources at any of the maintenance sites. Routine maintenance activities would not result in permanent increases in noise levels.

d. Less-than-Significant Impact with Mitigation Incorporated. During routine maintenance activities, there would be a temporary noise increase from use of power tools, equipment, and other non-powered hand-tools. The City would comply with all applicable noise and occupational safety standards, and to protect workers and other persons from health effects of increased noise levels from the use of construction equipment. Routine channel maintenance activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Mitigation measures **NOI-1** through **NOI-2** would reduce the noise impacts to less-than-significant.

e-f. No Impact. The project site is not located near an existing airport and is not within an area covered by an existing airport land use plan. Therefore, no impact would occur.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required; however, the following avoidance and/or minimization measures would be incorporated to minimize potential impacts:

NOI-1: Construction shall comply with all the City's noise ordinances.

NOI-2: All construction equipment used for the project shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING - Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Discussion

a-c. No Impact. The proposed project would not affect population and housing. Routine channel maintenance activities would maintain the design capacity of existing drainage features and would not directly or indirectly induce population growth, displace housing or necessitate construction of replacement housing.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

Discussion

a. No Impact. The project involves maintenance of existing levees, detention basins, drainage features and some new construction of erosion control features. The proposed project does not include construction of any habitable structures or other structures that would require public services or impact the service ratios, response times, or other performance objectives of any service providers. Routine channel maintenance activities would not result in a need for additional public services or substantial adverse physical impacts tor construction of new public facilities with respect to fire protection, police protection, schools, parks, or other public facilities.

Avoidance, Minimization, and/or Mitigation Measures
No mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. RECREATION				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion

a-b. No Impact. The project would not affect recreation or recreation facilities in the area because the project involve routine channel maintenance activities of existing drainage channels and other storm water facilities and would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impacts to recreational resources are expected.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC - Would the project:				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			X	
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?			X	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e. Result in inadequate emergency access?				X
f. Result in inadequate parking capacity?				X
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

Discussion

a-b. Less-than-Significant Impact. Routine channel maintenance activities may have some affects to traffic while going to, hauling from, and leaving sites. However, any affects to traffic would be minimal and insignificant compared to the existing traffic load and capacity of the street system. These trips would be dispersed throughout the City and are not expected to result in level of service impacts during peak traffic periods.

c. No Impact. The proposed project does not require any changes to existing regional air traffic activity, and the project site is not located near an airport. Therefore, no impact would occur.

d. No Impact. The design features associated with the project would not increase hazards, considering the routine channel maintenance activities would not result in the development of new roadways.

e. No Impact. The project would not affect emergency vehicle access.

f. No Impact. The project would not reduce available parking within the project area.

g. No Impact. There are no conflicts with adopted policies, plans, or programs supporting alternative transportation.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**UTILITIES AND SERVICE SYSTEMS - Would the project:**				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c.	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g.	Comply with federal, state, and local statutes and regulations related to solid waste?				X

Discussion

a. No Impact. The project is restricted to the routine channel maintenance activities; therefore, the project would not involve wastewater treatment requirements.

b. No Impact. The project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.

c. Less Than Significant Impact. Routine channel maintenance activities would result in the maintenance of drainage channels and ultimately would improve storm water drainage to the region.

No new storm water drainage facilities would be required as a result of routine channel maintenance activities.

d. No Impact. The project would not increase water supply demand.

e. No Impact. The project would not affect wastewater treatment.

f. Less Than Significant Impact. Although the project would generate some solid waste as a result of silt, gravel and sediment removal, quantities are not anticipated to be significantly burdensome to local disposal facilities. In addition, the City anticipates disposing of solids at a combination of local City disposal sites and the County landfill; therefore, project activities would not significantly increase solid waste disposal needs at the local landfill.

g. No Impact. The project would comply with federal, state, and local statutes and regulations related to solid waste.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California?		X		
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past project, the effects of other current project, and the effects of).				X
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion

a. Less-than-Significant with Mitigation Incorporated. As discussed in this study, the proposed project could result in impacts to biological resources, cultural resources, geology and soils, and the noise environment, but these impacts would be mitigated to less than significant levels. Mitigation measures included in this document have been identified to reduce these potentially adverse environmental impacts to a less than significant level.

b. No Impact. The project does not directly or indirectly contribute to cumulative impacts based on analysis provided within this study.

c. Less-than-Significant with Mitigation Incorporated. As discussed in this study, the proposed project could result in impacts on human beings indirectly due to noise impacts. Mitigation measures included in this study would reduce impacts to less-than-significant levels.

REPORT PREPARERS

Lead Agency

City of Rancho Cordova
2729 Prospect Park Drive
Rancho Cordova, CA 95670

Britton Snipes, P.E.

Environmental Consultant

Dokken Engineering
110 Blue Ravine Road, Suite 200
Folsom, CA 95630

Namat Hosseinion, Environmental Manager
Sarah Holm, Senior Environmental Planner/Biologist
Angela Scudiere, Environmental Planner/Biologist
Amy Dunay, Environmental Planner/Archaeologist
Brian Marks, Environmental Planner/Archaeologist
Zach Liptak, Environmental Planner

DISTRIBUTION LIST

A copy of the draft Environmental Document and a Notice of Availability have been distributed to the following departments, organization, interest groups, and businesses.

California Department of Fish and Wildlife,
North Central Region (2)
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

California Department of Fish and Wildlife,
Water Branch
830 S Street
Sacramento, CA 95811

Cordova Recreation and Park District
2729 Prospect Park Drive, Suite 230
Rancho Cordova, CA 95670

US Fish & Wildlife Service
650 Capitol Mall, 8th Floor
Sacramento, CA 95814

California Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296

Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

US Army Corps of Engineers
Sacramento District
1325 J Street, Rm 1350
Sacramento, CA 95814

Central Valley Flood Protection Board
3310 El Camino Ave, LL40
Sacramento, CA 95821

State Clearinghouse
Office of Planning & Research
1400 Tenth Street
P.O.Box 3044
Sacramento, CA 95812-3044

Sacramento County, Department of Water Resources
827 7th Street, Room 230
Sacramento, California 95814

REFERENCES

[ALA California] American Lung Association of California. 2011. Global Warming: Impacts to Public Health and Air Quality. Available at: <http://www.lung.org/associations/states/california/assets/pdfs/advocacy/global-warming-impacts-to.pdf> (accessed 5/19/14).

Bennett, W. A. 2005. Critical Assessment of the Delta Smelt Population in the San Francisco Estuary, California. San Francisco Estuary & Watershed, John Muir Institute of the Environment, Bodega Marine Laboratory. Available at: <http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/cmnt091412/sldmwa/bennett_2005.pdf> (accessed 5/20/2014).

Bolt, Beranek, and Newman. 1987. Noise Control for Buildings and Manufacturing Plants. U.S. Environmental Protection Agency, Office of Noise Abatement and Control, Washington, D.C

Bryant, W. A. 2005. Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0. Available at: <http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_ver2.htm> (accessed 2/18/2014).

California Attorney General's Office. 2010. Addressing Climate Change at the Project Level. Available at: <www.ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf> (accessed 6/19/14).

Caltrans. 2014. California Scenic Highway Mapping System: Sacramento County. Available at: <http://www.dot.ca.gov/hq/LandArch/scenic_highways/> (accessed 6/25/2014).

CARB. 2012. 2012 State Area Designations. Available at <http://www.arb.ca.gov/desig/adm/adm.htm> (accessed 2/11/2014).

CARB 2010. Greenhouse Gas Inventory for 2000-2008. Available at: <http://www.trpa.org/documents/rseis/3.5%20GHG%20Climate%20Changes/3.5_ARB%202010%20GHG%20inventory%202000-2008.pdf> accessed (6/19/14).

CARB. 2008. Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan. Available at: <http://www.arb.ca.gov/planning/sip/planarea/sacsip/sacplanozone2009.pdf> (accessed 6/17/14)

CDC. 2007. Information Warehouse California Geologic Survey. Available at: <http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm> (accessed 6/15/14).

CDFW. 2014. CWHR Life History Accounts and Range Maps. Available at: <http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx> (accessed 6/19/14).

City of Rancho Cordova. 2014a. Municipal Code Chapter 16.26: Rancho Cordova Energy Code. Available at: <http://www.codepublishing.com/CA/ranchocordova/> (accessed 7/1/14).

City of Rancho Cordova. 2014b. Municipal Code Chapter 16.38: Rancho Cordova Green Building Code. Available at: <http://www.codepublishing.com/CA/ranchocordova/> (accessed 7/1/14).

City of Rancho Cordova. 2014. City of Rancho Cordova Zoning Map. Available at: <http://www.cityofranchocordova.org/index.aspx?page=107> (accessed 7/1/14).

City of Rancho Cordova. 2014. Municipal Code Chapter 6.68: Noise Control. Available at: <http://www.codepublishing.com/CA/ranchocordova/> (accessed 7/1/14).

City of Rancho Cordova. 2006. City of Rancho Cordova General Plan.

CNDDB. 2014. Rarefind 5. Available at <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp> (accessed 6/17/14).

DTSC. 2014. EnviroStor. Available at <http://www.envirostor.dtsc.ca.gov/public/> (accessed 7/2/14)

Egherman, R. and B. Hatoff. 2002. Roseville Energy Facility Cultural Resources, Appendix J-1 of Application for Certification. Prepared for California Energy Commission, Sacramento, California. Prepared by URS, Oakland California.

EPA. 2010. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008. U.S. Environmental Protection Agency, Washington, DC. Available at <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport/archive.html> (accessed 6/21/14).

EPA. 1999. Guidance for Emissions Inventory Development, Volume VIII: Chapter 1 Methods for Estimating Carbon Dioxide Emissions From Combustion of Fossil Fuels, Prepared for Greenhouse Gas Committee, Emission Inventory Improvement Program, Washington, DC, October 1999.

Evans, Jules. 2000. Mystery of the marsh: the California black rail. Tideline Vol. 19 No. 4 1-3. Available at: <http://www.fws.gov/uploadedFiles/Region_8/NWRS/Zone_2/San_Francisco_Bay_Complex/Black%20Rail.pdf> (accessed 6/20/2014).

[IPCC] Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Intergovernmental Panel on Climate Change, Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2007. Available at: <http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm> (accessed 6/19/14).

Jones, Deborah. 1991. A Cultural resources Study for the Folsom East Area Facilities Plan and Portions of the Sewer and Water Line System, Sacramento County, California.

Keiller, Kyle. 2011. Tricolored Blackbird Habitat on California Department of Fish and Game Properties: An Assessment of Existing and Potential Habitat and Recommendations for Habitat Improvement and Maintenance. Audubon California, Sacramento. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=64146> (accessed 6/20/14).

Kroeber, A. L. 1925 Handbook of the Indians of California. Bureau of American Ethnology Bulletin 78.

Maniery, James Gary with contributions by Mary L. Maniery. 2014. Draft Report: An Archaeological, Ethnohistorical, and Ethnogeographical Assessment of the Historic Folsom Station and the Surrounding Vicinity, City of Rancho Cordova, Sacramento County, California. Prepared for the City of Folsom by Pappas. Submitted by PAR Environmental Services Inc. Unpublished report.

Maniery, Mary. 1992. Site record Ca-SAC-308-H. Obtained at Northeast Information Center, California State University, Sacramento. Sacramento, CA.

Mayer, Kenneth and Laudenslayer, William. 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game; Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cwhr/wildlife_habitats.asp> (accessed 6/14/14).

Miller, Karen J., Hornaday, Kelly. 1999. Draft Recovery Plan for the Giant Garter Snake (*Thamnopsis gigas*). Sacramento Fish and Wildlife Office, Region 1 U.S. Fish and Wildlife Service. Available at: <http://ecos.fws.gov/docs/recovery_plan/990702b.pdf> (accessed 6/20/14).

[NMFS] National Marine Fisheries Service. 2012a. Chinook Salmon (*Oncorhynchus tshawytscha*). NOAA Fisheries Office of Protected Resources. Available at: <http://www.nmfs.noaa.gov/pr/species/fish/chinooksalmon.htm> (accessed 6/20/14).

NMFS. 2012b. Steelhead Trout (*Oncorhynchus mykiss*). NOAA Fisheries Office of Protected Resources. Available at: <http://www.nmfs.noaa.gov/pr/species/fish/steelheadtrout.htm> (accessed 6/20/14).

NMFS. 2009. Public Draft Recovery Plan for The Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon And Central Valley Spring-run Chinook Salmon And the Distinct Population Segment of Central Valley Steelhead. National Marine Fisheries Service, Southwest Regional Office, Sacramento, CA. Available at: <http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/california_central_valley/public_draft_recovery_plan_october_2009.pdf> (accessed 6/20/14).

NMFS. 2005. Endangered and Threatened Species: Designation for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final rule 70 FR 52488. U.S. Department of Commerce. Available at: <http://www.gpo.gov/fdsys/search/citation.result.FR.action?federalRegister.volume=2005&federalRegister.page=52488&publication=FR> (accessed 6/20/14).

NMFS. 1993. Designated Critical Habitat for the Sacramento River Winter-Run Chinook Salmon; 56 FR 33212. U.S. Department of Commerce. Available at: <http://ecos.fws.gov/docs/federal_register/fr2311.pdf> (accessed 6/20/14).

Office of Historic Preservation. No Date. California Office of Historic Preservation Technical Assistance Series #1. California Environmental Quality Act (CEQA) and Historical Resources. State of California Parks and Recreations, Ca.

Rosenthal Jeffrey S., White, Gregory G. White, and Mark Q. Sutton. 2007."The Central Valley: A View from the Catbird's Seat." In California Prehistory: Colonization, Culture, and Complexity. Edited by Terry L. Jones and Kathryn A. Klar. Lanham, New York, Toronto, Plymouth: AltaMira Press, a division of Rowman and Littlefield publishers, Inc. 147-163.

SACOG. 2008. Metropolitan Transportation Plan for 2035. Available at: <http://www.sacog.org/mtp/2035/final-mtp/> (accessed 6/21/14).

SACOG. 2004. Sacramento Region Blueprint Transportation Land Use Plan. Available at: <http://www.sacregionblueprint.org/adopted/> (accessed 6/23/14).

Shipley, W.F. 1978.Native Languages of California. In California, edited by Robert F. Heizer, pp. 80-90. Handbook of the North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian

Institution, Washington, D.C.

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Purple Martin. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

SMAQMD. 2010. State Planning Requirements: California Clear Air Act. Available at: <http://www.airquality.org/plans/state/> (accessed 6/19/14).

Sullivan, Janet. 1996. *Taxidea taxus*. In: Fire Effects Information System. USDA Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Available at: <http://www.fs.fed.us/database/feis/animals/mammal/tata/all.html> (accessed 6/20/14).

Tesky, Julie L. 1994. *Buteo swainsoni*. In: Fire Effects Information System. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Available at:<http://www.fs.fed.us/database/feis/animals/bird/busw/all.html> (accessed 6/20/14).

University of California, Davis. 2014. Tricolored Blackbird Portal. Information Center for the Environment, University of California, Davis. Available at: <http://tricolor.ice.ucdavis.edu/> (accessed 6/20/14).

USFWS. 2007a. Conservancy Fairy Shrimp (*Branchinecta conservatio*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office. Available at: <http://www.fws.gov/cno/es/images/Conservancy%20FS_5-yearreview%20CNO%20FINAL%2027Sept07.pdf> (accessed 6/20/14).

USFWS. 2007b. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-Year Review: Summary and Evaluation. Sacramento U.S. Fish and Wildlife Office. Available at: <http://ecos.fws.gov/docs/five_year_review/doc1150.pdf> (accessed 6/20/14).

USFWS. 2007c. Vernal Pool Tadpole Shrimp (*Lepidurus packardi*) 5-Year Review: Summary and Evaluation. Available at:<http://ecos.fws.gov/docs/five_year_review/doc1160.pdf> (accessed 6/20/14).

USFWS. 2005. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003 Final Designation. Sacramento Fish and Wildlife Office. Available at <http://www.gpo.gov/fdsys/pkg/FR-2005-08-11/pdf/05-15569.pdf#page=1> (accessed 6/20/14).

USFWS. 2002a. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). USFWS Region1, Portland Oregon. Available at: <http://www.fws.gov/arcata/es/amphibians/crlf/documents/020528.pdf> (Accessed 6/20/14).

USFWS. 2002b. United States Fish and Wildlife Service: Life Histories-Vernal Pool Tadpole Shrimp (*Lepiduras packardi*). Available at: <http://ecos.fws.gov/docs/life_histories/K048.html> (accessed 6/20/14).

USGS. 2014. Science in Your Watershed. Available at: <http://water.usgs.gov/lookup/getwatershed?18020111/www/cgi-bin/lookup/getwatershed> (accessed 6/21/14).

Wang, J. C. S. 2010. Fishes of the Sacramento–San Joaquin Estuary and Adjacent Waters, California: A Guide to the Early Life Histories. Technical Report #9. Interagency Ecological Study Program for the Sacramento–San Joaquin Estuary. Available at: <http://www.usbr.gov/pmts/tech_services/tracy_research/tracyreports/Tech%20Report%209r.pdf> (accessed 6/20/14).

Wilson, Norman L and Arlean H. Towne. 1978. Nisenan. In California, edited by Robert F. Heizer, pp. 387-397. Handbook of the North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Windmiller, Ric, Louis A. Payen and Pamela Payen. 1997.Evaluation of Cultural Resources Broadstone Unit 3 Sacramento County, California.

Yoshiyama, R.M., F.W. Fisher, and P.B. Moyle. 1998. Historical abundance and decline of Chinook salmon in the Central Valley region of California. North American Journal of Fisheries Management 18:487-521. Available at: <http://deltarevision.com/maps/fish/nmfs_exh4_yoshiyama_etal_1998.pdf> (accessed 6/20/14).

Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. CDFG, Sacramento, California.

Appendix A List of Abbreviated Terms

ALA California	**American Lung Association of California**
BMPs	**Best Management Practices**
Cal-EPA	**California Environmental Protection Agency**
Caltrans	**California Department of Transportation**
CARB	**California Air Resources Board**
CCAA	**California Clean Air Act**
CCR	**California Code of Regulations**
CDC	**California Department of Conservation**
CDFW	**California Department of Fish and Wildlife**
CEQA	**California Environmental Quality Act**
City	**City of Rancho Cordova**
CNDDB	**California Natural Diversity Data Base**
CNPS	**California Native Plant Society**
CO	**Carbon monoxide**
CO_2	**Carbon dioxide**
CH_4	**Methane**
CRHR	**California Register of Historical Resources**
dbh	**Diameter At Breast Height**
District	**American River Gold Mining District**
DTSC	**Department of Toxic Substances Control**
EIR	**Environmental Impact Report**
EPA	**U.S. Environmental Protection Agency**
GHG	**Greenhouse Gas**
IS/MND	**Initial Study/ Mitigated Negative Declaration**
IPCC	**Intergovernmental Panel on Climate Change**
MOU	**Memorandum of Understanding**
MS4	**Municipal Separate Storm Sewer Systems**
NAAQS	**National Ambient Air Quality Standards**
NCIC	**North Central Information Center**
NMFS	**National Marine Fisheries Service**
NOAA	**National Oceanic and Atmospheric Administration**
NOx	**Nitrogen Oxides**
N_2O	**Nitrous Oxide**

NPDES	**National Pollutant Discharge Elimination System**
O_3	**Ozone**
PM_{10}	**Respirable Particulate Matter**
$PM_{2.5}$	**Fine Particulate Matter**
PRC	**Public Resources Code**
Project	**Routine Maintenance of Stream Channels and Drainage Facilities Project**
RMA	**Routine Maintenance Agreement**
ROG	**Reactive Organic Gasses**
SAAQS	**State Ambient Air Quality Standards**
SACOG	**Sacramento Area Council of Governments**
SIP	**State Implementation Plan**
SMAQMD	**Sacramento Metropolitan Air Quality Management District**
SQIP	**Stormwater Quality Improvement Plan**
SVAB	**Sacramento Valley Air Basin**
USACE	**United States Army Corps of Engineers**
USFWS	**United States Fish and Wildlife Service**
USGS	**U.S. Geological Survey**

Appendix B Variance Requests Required

Variance Requests Required

Monthly Limitations by Activity

Activity	January	February	March	April	May	June	July	August	September	October	November	December
Vegetation Removal[1]		**Variance Request: Migratory Nesting Birds**										
		Variance Request: Sensitive Aquatic Species										
Bridge Work[2]		**Variance Request: Bat Pupping Season**										
Sediment Removal (No shrub or tree removal)[3]		**Variance Request: Sensitive Aquatic Species**										
In Water/Wetland Work[4]		**Variance Request: Sensitive Aquatic Species**										

[1] No removal or trimming of elderberry shrubs without consulting with USFWS

[2] Structures with joints/ Suitable for bats

[3] Where water is present

[4] No large equipment work within the Cordova Creek Restoration Area without consulting with NOAA. Hand tool work is allowed.

Appendix C Summary of Mitigation Commitments

Summary of Mitigation Commitments For Routine Maintenance of Stream Channels and Drainage Facilities	
Commitment Resource	**Commitment Measure**
Aesthetics	
AES-1	Vegetation removal would be limited to only what is necessary to perform the City's routine maintenance activities and would only occur within the creeks, drainage channels, detention basins or other waters.
AES-2	Maintain stream channels in such a manner that it avoids removal of trees greater than 4 inches diameter at breast height (dbh) to the greatest extent feasible. Any removal of mature trees is anticipated to occur in areas densely vegetated where the removal is unlikely to noticeably affect the visual environment. However, as a practice, the City would preferentially trim rather than remove live trees greater than 4 inches dbh.
Air Quality	
AQ-1	SMAQMD's Rules 401 (Visible Emissions), 402 (Nuisance), 403 (Fugitive Dust) must be followed.
Biological	
BIO-1	Prior to beginning any maintenance work under the CDFW Agreement, the City maintenance supervisors and crews who would be completing the work must be trained by qualified personnel to identify and avoid harm to sensitive resources, special status species and their habitats.
BIO-2	The City would avoid impacts to elderberry shrubs. If maintenance activities cannot avoid impacts to elderberry shrubs, the City must initiate Consultation with the USFWS.
BIO-3	To protect aquatic species, nesting migratory birds, and bats, the City must submit a variance request to the CDFW to perform vegetation removal, sediment removal, or bridgework between February 15th and September 30th. CDFW would use their discretion on whether the activities are allowed and if additional measures are required.
BIO-4	To protect anadromous fish species, the City must use hand tools to clear vegetation at the Cordova Creek Restoration Area. If larger equipment is necessary for maintenance of the Cordova Creek Restoration Area, the City must initiate Consultation with NOAA.

BIO-5	The City must prevent chemicals, paint, oil, gas, petroleum products, and other hazardous substances from contaminating the soil and/or entering waters of the U.S. and State. Any equipment operated adjacent to a stream must be checked and maintained daily to prevent leaks of materials. Refueling, lubricating and washing of vehicles and equipment must occur at a minimum of 100 feet from waters and must not be placed in areas where harmful materials, if spilled, can enter waters. Stationary equipment such as motors, pumps, generators, compressors, and welders located within or adjacent to the stream must be positioned over drip pans.
BIO-6	Prior to arrival at the project site and prior to leaving the project site, the City must clean all equipment that may contain invasive plants and/or seeds to reduce the spreading of noxious weeds.
BIO-7	The City would comply with the City of Rancho Cordova's Municipal Code, Chapter 19.12 Tree Preservation and Protection. Chapter 19.12 Tree Preservation and Protection restricts removal of native oak trees for trees meeting the City's definition of a City 'Tree'.
BIO-8	The City shall avoid conducting routine maintenance activities within vernal pools.
BIO-9	At a frequency deemed necessary by the City, nuisance burrowing rodents (defined as gophers, voles, mice, and ground squirrels) on the levees must be controlled by Carbon Monoxide fumigation. Fumigation must be conducted during the spring (February 1 –May 31) and must be applied by a certified and experienced applicator with the appropriate pesticide and CDFW permits. Prior to application, Contractor must follow all applicable state fumigation regulations, including but not limited to the posting of appropriate signage and preparation of a fumigation management Plan for burrowing rodents. No less than 2 days prior to fumigations, tall grasses and weeds must be mowed or weedeaten to a height of four (4) inches to locate obscured burrows. The burrow must not be disturbed the day of application to avoid pre-mature temporary abandonment of the burrow.

	No less than 24 hours prior to fumigation, each burrow must be inspected by qualified staff to confirm the burrow is only occupied by the target nuisance rodent species. River otters, badgers, burrowing owls, bank swallow and other non-rodent species must not killed by fumigation efforts or targeted for lethal control. Burrows identified as being occupied by a species other than the targeted nuisance rodent must be flagged and avoided. Fumigation must not be applied within 40 feet of a flagged burrow. Contractor must follow all label rates and application methods. At a minimum, at the time of carbon monoxide application all burrow entrances must be completely blocked to prevent the escapement of fumigant or target species. Following fumigation, all fumigated burrows must be grouted as specified. The City will determine the need to control larger mammals such as beaver, muskrat, coyote, or fox on a periodic basis. Should the city deem control of larger mammals such as control of beaver, muskrat, coyote, or fox, the contractor must acquire and adhere to the requisite permits from the CDFW.
Cultural	
CR-1	In routine maintenance areas classified as Category A, Below Ground Maintenance Activities are permissible only if first surveyed by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology first completes a pedestrian field and/or evaluates present archaeological resources. Above Ground Maintenance activities are allowed.
CR-2	The City would provide training to distinguish modern period trash from historic period trash. An archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall prepare and conduct the training.
CR-3	Additional archaeological survey would be needed if project limits are extended beyond the present survey limits. If routine maintenance activities have the potential to impact structurewoulds (bridges, buildings, etc.) the resource must be surveyed and potentially evaluated by an architectural historian.
CR-4	If previously unidentified cultural materials are unearthed during

	maintenance activities, work shall be halted in that area until an archaeologist meeting the Secretary of the Interiors Professional Qualification Standards in Archaeology can assess the significance of the discovery and develop a plan for documentation and removal of resources, if necessary.
CR-5	If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. PRC Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission who will then notify the Most Likely Descendent. Further provisions of PRC 5097.98 are to be followed as applicable.
Geology	
GEO-1	Work included in routine channel maintenance activities would minimize soil and habitat disturbances through use of small construction equipment or hand tools used in the channel or on the channel banks. The proposed project would limit the amount of fill or sediment removal that can occur below the ordinary high water mark at any single location. In addition, should gunite is to be used, it would only be used at locations where it would not enter or be washed into a stream. Since the City is a joint participant of Sacramento County's National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit No. CAS082597, the project would also be required to comply with the County's NPDES for discharges of urban runoff from Municipal Separate Storm Sewer Systems (MS4s). Further, the project must comply with the Stormwater Quality Improvement Plan (SQIP), which would adequately control erosion.
Noise	
NOI-1	Construction shall comply with all the City's noise ordinances.
NOI-2:	All construction equipment used for the project shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.