INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Routine Maintenance of Stream Channels and Drainage Facilities Project

September 2016

Lead Agency:

311 Vernon Street
Roseville, CA 95678
Contact: Mark Morse
(916) 774-5334

Prepared by:

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

This page is intentionally left blank.

NOTICE OF INTENT
TO ADOPT A MITIGATED NEGATIVE DECLARATION

for the

Routine Maintenance of Stream Channels and Drainage Facilities Project — City of Roseville

Public Notice is hereby given that a Mitigated Negative Declaration (Environmental Report) is available for public review for the Routine Maintenance of Stream Channels and Drainage Facilities Project – City of Roseville.

Project Location: The Proposed Project is located in the creeks, basins, waterways, and associated riparian corridors and floodplains of the City of Roseville (City), Placer County, California.

Project Description: The Proposed Project consists of the engineering, regulatory compliance, operations and maintenance, and restoration of the City's storm drain system and natural creeks/channels and detention/water quality basins which convey and store stormwater. The completed project will provide routine maintenance of the natural and constructed water conveyance system throughout the City.

Document Review and Availability: The public review and comment period will extend for 30 days in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15105 starting **September 24th, 2016** and ending **October 23rd, 2016**. The Initial Study/Mitigated Negative Declaration (IS/MND) is available for public review at the following locations:

- City of Roseville Permit Center
  311 Vernon Street
  Roseville, CA 95678
  (8:00 A.M. to 5:00 P.M., Monday through Friday)

The IS/MND can also be viewed and/or downloaded at the City of Roseville website via the following: http://www.roseville.ca.us/gov/development_services/planning/environmental_documents_n_public_notices.asp

Comments/Questions: Comments and/or questions regarding the IS/MND may be directed to: Mark Morse, Environmental Coordinator, City of Roseville, City Manager's Office, 311 Vernon Street, Roseville, CA 95678 (916) 774-5334.

Public Meetings: The IS/MND is tentatively scheduled for consideration and possible adoption by the Roseville City Council on **December 7, 2016**. City Council meetings start at 7:00 P.M. in the Roseville Council Chambers, 311 Vernon Street. Interested parties should call the Roseville City Clerk's Office to confirm meeting agendas, times, and dates (916) 774-5263.

This page is intentionally left blank.

MITIGATED NEGATIVE DECLARATION

PROJECT TITLE:	Routine Maintenance of Stream Channels and Drainage Facilities Project
PROJECT LOCATION:	Creeks, basins and waterways of the City of Roseville, Placer County, California
DATE:	September 23rd, 2016
PROJECT APPLICANT:	City of Roseville, Parks and Recreation Department
LEAD AGENCY:	City of Roseville
CONTACT PERSON:	Mark Morse, Environmental Coordinator: (916) 774-5334

PROJECT DESCRIPTION:

The Proposed Project consists of the engineering, regulatory compliance, operations and maintenance, and restoration of the City's storm drain system and natural creeks/channels, detention/water quality basins and associated riparian corridors and floodplains which convey and store stormwater. The completed project will provide routine maintenance of the natural and constructed storm drain system throughout the City.

DECLARATION

The City of Roseville Environmental Coordinator has determined that the above project will have no significant effect on the environment and is therefore exempt from the requirement of an Environmental Impact Report (EIR). The determination is based on the attached initial study and the following findings:

a) *The project will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory.*

b) *The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.*

c) *The project will not have impacts that are individually limited, but cumulatively considerable.*

d) *The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.*

e) *No substantial evidence exists that the project will have a negative or adverse effect on the environment.*

f) *The project incorporates all applicable mitigation measures identified in the Initial Study.*

g) *This Mitigated Negative Declaration reflects the independent judgment of the lead agency.*

Written comments shall be submitted no later than 5:00 p.m. October 24th, 2016. City Council determination on this Mitigated Negative Declaration is final.

Submit comments to:

Mark Morse, Environmental Coordinator
City of Roseville, City Manager's Office
311 Vernon Street
Roseville, CA 95678

Posting Period:

September 23rd, 2016 through October 24th, 2016

Initial Study approved by:

Mark J Morse

Mark Morse, Environmental Coordinator

This page is intentionally left blank.

Initial Study/Mitigated Negative Declaration

Routine Maintenance of Stream Channels and Drainage Facilities Project

Lead Agency: City of Roseville
311 Vernon Street
Roseville, CA 95678

Prepared by:

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

September 2016

This page is intentionally left blank.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This project-level Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities Project (Project) to satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] 21000 *et seq.*) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 *et seq.*). The City of Roseville (City) is the lead agency for this project under CEQA.

1.1 Initial Study Purpose

CEQA requires that all State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. An Initial Study is a public document used by the decision-making lead agency to determine whether a project may have a significant impact on the environment. If it is determined that the Proposed Project may have a significant impact on the environment, but that these impacts will be reduced to a Less Than Significant Level through implementation of specific recommended mitigation measures, a Mitigated Negative Declaration shall be prepared.

This Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Routine Maintenance of Stream Channels and Drainage Facilities Project and relies on site-specific studies to address in detail the effects or impacts associated with the Proposed Project.

This IS/MND is a public information document that describes the Proposed Project, existing environmental setting at the project site, and potential environmental impacts of construction and operation of the Proposed Project. It is intended to inform decision-makers of the Proposed Project's compliance with CEQA and the State CEQA Guidelines.

1.2 Review Process

This IS/MND will be circulated for a 30-day public review and comment period as required by CEQA. During the review period, written comments may be submitted to:

Mr. Mark Morse
Environmental Coordinator
Roseville City Manager's Office
311 Vernon Street
Roseville, CA 95678
mmorse@roseville.ca.us

This page is intentionally left blank.

2.0 PROJECT DESCRIPTION

The following sections provide background information on routine maintenance activities discussed in this document:

2.1 Project Location

Routine maintenance activities would take place within creeks, improved and unimproved drainage channels, detention basins and constructed water quality swales, associated riparian vegetation, and low floodplains throughout the City for a period of 12 years (Figure1 Project Vicinity, Figure 2 Project Location). The City's Routine Maintenance Agreement (RMA) would cover all areas of CDFW jurisdiction with City limits. This will include the Amoruso Rancho Specific Plan (ARSP) which is an approved project but subject to annexation. Following annexation, CDFW jurisdictional areas within the ARSP would be covered by the City's RMA. The following creeks (and drainages) are located within the City's existing boundaries and could require maintenance: Dry Creek, Cirby Creek, Linda Creek, Miners Ravine, Secret Ravine, False Ravine, Antelope Creek, Pleasant Grove Creek, South Branch Pleasant Grove Creek, Pleasant Grove Creek North Branch, Pleasant Grove Creek Blue Oaks Tributary, Pleasant Grove Creek Placer Tributary, Kaseburg Creek, Kaseburg Creek Sun City Tributary One, Kaseburg Creek Sun City Tributary Two, Kaseburg Creek East Branch, Kaseburg Creek South Branch, Coyote Creek, and Highland Ravine (Figure 3 Project Area). In addition multiple unnamed drainage ditches, canals, drainage swales, detention basins and overland relief within the City limits would undergo routine maintenance. City staff would also maintain the Cirby-Linda-Dry Creek flood control facilities (including flood walls, berms, bypass channels, pumps, and berms).

2.2 Project Setting

Natural communities found in the areas discussed in Section 2.1 include the following:

Barren/Developed

Barren/developed areas include buildings, parking lots, hardscape, concrete lining, rip-rap, or other areas with little vegetative cover. These areas are defined by the absence of vegetation with less than 2% total vegetative cover by herbaceous growth and less than 10% cover by trees or shrubs.

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 (*Rubus ursinus*), 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/creek 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.).

Ruderal/Disturbed Annual Grassland

A portion of 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.

Mixed Oak Woodland

Mixed oak woodland typically is characterized by mixed hardwoods, conifers, and shrubs. Tree species associated with the habitat include blue oaks (*Quercus douglasii*), valley oaks (*Quercus lobata*), California buckeye (*Aesculus californica*), and 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 mixed oak woodland within the City include blue oak, valley oak, interior live oak, California buckeye, and gray pine (*Pinus sabiniana*).

2.3 Project Description

The City of Roseville proposes to enter into a 12-year (17 years with optional 5 year extension) Streambed Alteration Agreement with the California Department of Fish and Wildlife (CDFW) for the ongoing implementation of routine maintenance activities, capital improvement projects, erosion control projects and vegetation restoration activities within jurisdictional improved and unimproved channels, drainage facilities, and associated CDFW jurisdictional areas. Coverage for the City's existing routine maintenance work would transition to the new Agreement beginning January 2017. For the purposes of this RMA, the limits of CDFW jurisdiction was developed based on aerial photography and City floodplain mapping and generally extends from the center of channel to the outer edge of riparian zones, wetland vegetation or low floodplains (whichever is larger). Jurisdictional areas included in the routine maintenance area are generally mapped with green, blue or purple shading in Figure 3 Project Area. In specific circumstances, the boundary of CDFW jurisdiction may differ from mapped limits. Exact limits of CDFW jurisdiction will be determined on a case by case basis in consultation with CDFW.

Routine Maintenance Tasks

Routine maintenance would primarily involve the use of various types of small equipment including pickup trucks, hand tools (e.g. chainsaws, string trimmers, loppers, shovels, rakes) and may occasionally require standard construction equipment, including, but not limited to: water trucks, concrete saws, backhoes, graders and compactors. The City anticipates completing approximately 5 to 10 VRF maintenance projects per year and 3 to 5 revegetation/restoration projects total over the 12 year life of the RMA. Depending on extent and location, any given VRF maintenance project may take between 1 day and 3 months to complete. Exact methods, locations, and extent of maintenance activities would be submitted to CDFW for final approval through the Verification Request Form (VRF) process. Maintenance activities would include the following:

Trail Maintenance

The City would provide any necessary maintenance to access roads and existing City trails along creek corridors and at trail creek crossings. There are approximately 34 miles of paved trails within the City. Most of these trails are located within existing open space corridors but are not all necessarily within CDFW jurisdictional areas. In general, the existing paved trail network is used as maintenance access. The City anticipates vegetation control equipment to largely be comprised of herbicides, mowers, 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, selective trimming for public safety and visibility and perform general maintenance on trail facilities such as benches, signage, 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 to maintain trail safety and public access.

Goat Grazing

The City may contract for goat grazing services to aid in thatch management, fuel reduction and invasive species removal tasks. This would involve a herd of approximately 500 goats and temporary low voltage electric fencing to contain the herd to a defined paddock. Herds would be left in a paddock for a period of 12-36 hours depending on vegetation density and the desired amount of vegetation removal and would then be moved onto the next area. In this fashion, large swaths of open space preserve within the City would be "flash grazed" once every 1 or 2 years. Approximately 1,400 acres of open space preserve would be flash grazed annually. A portion of this grazed area would be within riparian areas under CDFW jurisdiction.

Goats would not be permitted within the bed bank or channel of stream channels but would be permitted in adjacent riparian areas under CDFW jurisdiction. Goat grazing is typically conducted on steep slopes and other areas where access is limited. Areas grazed by the goats with a high risk of erosion may be reseeded with native plants or stabilized with general storm water best management practices to manage soil erosion in critical areas such as outfalls. Goat grazing is necessary to maintain storm flow capacity, reduce thatch level/fire load, and control invasive species in areas where worker/equipment access would be difficult.

Channel Alignment Maintenance

At locations where City property and facilities are at risk, the City would maintain existing channel alignments to prevent creeks and drainages from altering course and threatening damage to public property or City facilities during large storm events. Activities may include the strategic addition of rock slope protection armoring along the outside edge of stream meanders and in other locations where hydraulic forces are concentrated. In non-urgent locations, the channel may be densely planted with native plants in order to stabilize banks and maintain the current creek alignment. Work may also entail removal of deposited sediment to prevent the bed of the channel from elevating and causing the channel to braid. Maintaining existing channel alignments may be necessary to prevent channels from undermining and destabilizing bridges, public utilities, roadways, or bike trails.

Debris or Obstruction Removal

The City would remove debris, trash, transient camps, 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 for the purpose of maintaining channel capacity, preventing pump damage, preventing erosion, or preventing damage to culverts or bridge structures. In particular, beaver dam removal is a frequent and important obstruction removal project for the City. The City works with Placer County Animal Control for beaver depredation when necessary. The City proposes debris and obstruction removal in creeks, channels, and detention basins. Debris or obstruction removal will be necessary to maintain flood capacity and protect City properties adjacent to stream channels from flood damage. 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 to maintain functionality of these utilities. 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 (pneumatic sewer line cleaning with a vacuum truck), Closed Circuit Television (CCTV) inspections, horizontal directional drilling, jack & bore, electric pole removal/replacement, and open trenching.

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. Removal of silt, sand, or other sediments will be necessary to maintain channel or basin capacity and may be followed by

re-vegetation efforts.

Vegetation Control in Channels

The City would cut, mow, disc, or bulldoze 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, other hand tools and herbicides, 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 per the City's flood model. The City would remove dead or dying trees at risk of falling across a channel and impairing channel capacity. New trees less than 4-inches DBH (diameter measured 4.5 feet above ground level) may be removed as necessary to maintain channel capacity. When necessary, 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*)] to maintain channel capacity and improve native habitat. The City would not remove sensitive plant populations without CDFW approval. In addition, maintenance work near elderberry shrubs will be consistent with the *Biological Opinion on Service Approval of the City of Roseville Open Space Preserve Overarching Management Plan* (BO # 81420-2008-F-1958-3).

Tree and Vegetation Control for Overhead Electric Infrastructure

The City would cut, trim and potentially remove trees and vegetation as necessary to maintain the safety clearance setbacks from overhead electric lines and related infrastructure. This work is typically conducted by tree trimming crews using bucket lift trucks, chain saws other hand tools and chippers.

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 could include riprap, soil, gravel material, or aggregate base and would come from commercial sources in the local area. The City may also employ bioengineering methods where feasible to repair or enhance previously installed erosion control work. 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 CDFW for final approval through the VRFs.

Water Diversions

To minimize sedimentary effects to the channels and waterways, temporary water diversions would be utilized as necessary to prevent surface water from entering maintenance work areas. Dewatering is anticipated to be necessary for work within the wetted channel of perennial stream channels during the summer low flow period. Diversion and dewatering plans specific to the individual routine maintenance activity would be submitted to 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. The City may use bioengineering methods where feasible to reduce creek bank erosion. 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.

Bridge Washing, Graffiti Removal and Painting

Bridge washing, graffiti removal, and painting may be necessary to maintain the aesthetic quality of the City. Bridge washing will involve power washing the bridge to remove non-original materials such as dirt, spider webs and stains. Graffiti removal may involve power washing, applying chemical solvents, or rolling on paint over the graffiti. Bridge painting will involve power washing following by applying paint with either a roller or pneumatic spray gun. Containment measures, including drop cloths and spill response kits, would be used to prevent deleterious material from contaminating state waters and avoid adverse impacts to fish and wildlife resources.

Geotechnical Sampling and Subsurface Cultural Resource Sensitivity Testing

The City would obtain core samples and conduct other minor geotechnical and/or cultural resources investigations as part of advancing CIP project foundation design and/or testing for sub surface cultural resource sensitivity. Geotechnical investigations would involve a truck or track mounted drill rig and a crew of two or three drill operators and one geologist. The drill rig would be used to obtain 3 or 4 inch diameter core samples in order to determine the nature of underlying sediments and bedrock to a depth determined by the onsite geologist during drilling (typically 20-80 feet). After drilling is complete, the hole will be filled with either bentonite clay (weathered volcanic ash) or mortar (low aggregate concrete) to prevent groundwater contamination.

Positioning of the drill rig may require vegetation trimming to access the site. Impacts associated with site access and vegetation trimming will be quantified and included in the VRF submitted for the work. Drill rigs would be positioned over secondary containment to prevent fuel or hydraulic leaks from contaminating soils. Secondary containment will consist of visqueen or similar plastic sheeting. The edges of secondary containment will be elevated to prevent leaks from running off the plastic sheeting.

Cultural resource subsurface sensitivity investigations, commonly known as an “Extended Phase 1” (XPI), may be required for non RMA projects or activities to better determine a site’s cultural resource sensitivity. XPI’s typically involve shovel probe excavation of approximately 0.50 by 0.50 meters to a depth of 10cm and/or use of hand held augers to access deeper (up to 9 meters) older soil horizons. After excavated materials are screened for potential artifacts, temporary test pits or auger holes are back filled and the surface restored.

Flood Alert System

The City’s Flood Alert System is comprised of remote sensor and transmitter locations along various streams within the City that are prone to flooding. City staff will access and maintain the remote sensor and transmitter installations currently in operation. City staff will install new stream gauge equipment for monitoring stream levels and precipitation within the stream zone. Locations of new stream gauge monitors and sensors would be submitted to CDFW for final approval through the VRF’s prior to installation.

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 (17-years if extended) as shown in Table 1. Anticipated total area of fill is estimated to be approximately 142,500 Square Feet (3.27 acres) over the 12-year life of the RMA (201,800 square feet [4.63 acres] over 17 years if the RMA is extended). Anticipated total volume of fill is estimated to be approximately 17,200 Cubic Yards over the 12-year span of the RMA (24,400 cubic yards over 17 years if the RMA is extended) based on the number of projects specified per year. The number of projects anticipated to be completed annually was generated based on previous years of maintenance within the City. If extreme weather events occur, the anticipated number of projects per year may be exceeded but will not exceed triple the number of projects listed below. Final quantities for routine maintenance activities would be submitted to CDFW through the VRFs:

TABLE 1: Summary of Fills		
Location of Fills	**Anticipated Fill over 12 years**	**Anticipated Fill If Extended to 17 years**
Outfall Fills	Area: 60,384 ft^2 Volume: 8,920.8 yd^3	Area: 85,544 ft^2 Volume: 12,638 yd^3
Bridge/Culvert Fills	Area: 61,200 ft^2 Volume: 6,768.8 yd^3	Area: 86,700 ft^2 Volume: 9,589.1 yd^3
Channel/Basin Fills	Area: 20,960 ft^2 Volume: 1,516 yd^3	Area: 29,693 ft^2 Volume: 2,147.7 yd^3
Approximate Total	Area: 142,500 ft^2 Volume: 17,200 yd^3	Area: 201,800 ft^2 Volume: 24,400 yd^3

Outfall Fills (Anticipated 2 small and 1 large project/year)

- Typical Small Project Area = (4 feet wide by 4 feet long) =16 Square Feet (ft^2)
- Typical Small Project Volume = (4 feet wide by 4 feet long by 2 feet deep)/27=1.2 Cubic Yards (yd^3)
- Typical Large Project Area = (50 feet wide by 100 feet long) =5,000 ft^2
- Typical Large Project Volume = (50 feet wide by 100 feet long by 4 feet deep)/27=741 yd^3
    - 12-year cumulative estimate (17-year cumulative estimate)
    - Area: (16 ft^2 x 24 small projects) + (5,000 ft^2 x 12 large projects) = 60,384 ft^2 (85,544 ft^2)
    - Volume: (1.2 yd^3 x 24 small projects) + (741 yd^3 x 12 large projects) = 8,920.8 yd^3 (12,638 yd^3)

Bridges/Culvert Fills (Anticipated 1 small project/year and 1 large project every 3 years)

- Typical Small Project Area = (10 feet wide by 10 feet long) =100 ft^2
- Typical Small Project Volume = (10 feet wide by 10 feet long by 2 feet deep)/27=7.4 yd^3
- Typical Large Project Area = (150 feet wide by 100 feet long) =15,000 ft^2
- Typical Large Project Volume = (150 feet wide by 100 feet long by 3 feet deep)/27=1,670 yd^3
    - 12-year cumulative estimate (17-year cumulative estimate)
    - Area: (100 ft^2 x 12 small projects) + (15,000 ft^2 x 4 large projects) = 61,200 ft^2 (86,700 ft^2)
    - Volume: (7.4 yd^3 x 12 small projects) + (1,670 yd^3 x 4 large projects) = 6,768.8 yd^3 (9,589.1 yd^3)

Invert of Channel/Basin Fills (Anticipated 2 small projects/year and 1 large project every 3 years)

- Typical Small Project Area = (4 feet high by 10 feet long) =40 ft^2
- Typical Small Project Volume = (4 feet high by 10 feet long by 2 feet thick)/27=3.0 yd^3
- Typical Large Project Area = (20 feet high by 250 feet long) =5,000 ft^2
- Typical Large Project Volume = (20 feet high by 250 feet long by 2 feet thick)/27=370 yd^3
    - 12-year cumulative estimate (17-year cumulative estimate)
    - Area: (40 ft^2 x 24 small projects) + (5,000 ft^2 x 4 large projects) = 20,960 ft^2 (29,693 ft^2)
    - Volume: (3.0 yd^3 x 12 small projects) + (370 yd^3 x 4 large projects) = 1,516 yd^3 (2,147.7 yd^3)

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 (17 years if extended) and include approximate quantities of area and volume for typical small and large occurrences. Anticipated total area of sediment removal is estimated to be approximately 348,100 square feet (8 acres) over the 12-year life of the RMA (493,100 square feet [11.32 acres] over 17 years if the RMA is extended) as shown in Table 2. Anticipated total volume of sediment removal is estimated to be approximately 49,400 cubic yards over the 12-year span of the RMA (70,000 cubic yards over 17 years if the RMA is extended). The number of

projects anticipated to be completed annually was generated based on previous years of maintenance within the City. If extreme weather events occur, the anticipated number of projects per year may be exceeded but will not exceed triple the number of projects listed below. Final quantities for routine maintenance activities would be submitted to CDFW through the VRFs:

TABLE 2: Summary of Sediment Removal		
Location of Sediment Removal	**Anticipated Sediment Removal over 12 years**	**Anticipated Sediment Removal If Extended to 17 years**
Outfall Sediment Removal	Area: 32,880 ft^2 Volume: 4,551 yd^3	Area: 46,578 ft^2 Volume: 6,447.2 yd^3
Bridge/Culvert Sediment Removal	Area: 102,000 ft^2 Volume: 13,777.4 yd^3	Area: 144,500 ft^2 Volume: 19,518 yd^3
Beaver Dam Sediment Removal	Area: 12,288 ft^2 Volume: 1,358.6 yd^3	Area: 17,408 ft^2 Volume: 1,924.7 yd^3
Channel/Basin Sediment Removal	Area: 200,960 ft^2 Volume: 29,682.6 ft^2	Area: 284,693 ft^2 Volume: 42,050.35 yd^3
Approximate Total	Area: 348,100 ft^2 Volume: 49,400 yd^3	Area: 493,100 ft^2 Volume: 70,000 yd^3

Outfall Sediment Removal (Anticipated 15 small projects/year and 1 large project every 5 years)

- Typical Small Project Area = (4 feet wide by 4 feet long) =16 ft^2
- Typical Small Project Small Volume = (4 feet wide by 4 feet long by 1 feet deep)/27=0.59 yd^3
- Typical Large Project Area = (50 feet wide by 250 feet long) =12,500 ft^2
- Typical Large Project Volume = (50 feet wide by 250 feet long by 4 feet deep)/27=1,852 yd^3
  - 12-year cumulative estimate (17-year cumulative estimate)
  - Area: (16 ft^2 x 180 small projects) + (12,500 ft^2 x 2.4 large projects) = 32,880 ft^2 (46,578 ft^2)
  - Volume: (0.59 yd^3 x 180 small projects) + (1,852 yd^3 x 2.4 large projects) = 4,551 yd^3 (6,447.2 yd^3)

Bridges/Culvert Sediment Removal (Anticipated 10 small projects/year and 1 large every 5 years)

- Typical Small Project Area = (10 feet wide by 10 feet long) =100 ft^2
- Typical Small Project Volume = (10 feet wide by 10 feet long by 1 feet deep)/27=3.7 yd^3
- Typical Large Project Area = (150 feet wide by 250 feet long) =37,500 ft^2
- Typical Large Project Volume = (150 feet wide by 250 feet long by 4 feet deep)/27=5,555.6 yd^3
  - 12-year cumulative estimate (17-year cumulative estimate)
  - Area: (100 ft^2 x 120 small projects) + (37,500 ft^2 x 2.4 large projects) = 102,000 ft^2 (144,500 ft^2)
  - Volume: (3.7 yd^3 x 120 small projects) + (5,555.6 yd^3 x 2.4 large projects) = 13,777.4 yd^3 (19,518 yd^3)

Beaver dam Sediment Removal (Anticipated 1 notch/year, 1 small and 1 large every 5 years)

- Notch in Dam Area= (4 feet wide by 4 feet long) = 16 ft^2
- Notch in Dam= (4 feet wide by 4 feet long by 3 feet deep)/27=1.8 yd^3
- Small Downstream/Upstream of Notch in Dam Area= (4 feet wide by 10 feet long) = 40 ft^2
- Small Downstream/Upstream of Notch in Dam Volume= (4 feet wide by 10 feet long by 1 feet deep)/ 27 = 1.5 yd^3
- Large Downstream/Upstream of Notch in Dam Area= (20 feet wide by 250 feet long) = 5,000 ft^2
- Large Downstream/Upstream of Notch in Dam Volume= (20 feet wide by 250 feet long by 3 feet deep)/ 27 = 555.6 yd^3
  - 12-year cumulative estimate (17-year cumulative estimate)
  - Area: (16 ft^2 x 12 notches) + (40 ft^2 x 2.4 small downstream/upstream) + (5,000 ft^2 x 2.4 large downstream/upstream) = 12,288 ft^2 (17,408 ft^2)
  - Volume: (1.8 yd^3 x 12 notches) + (1.5 yd^3 x 2.4 small downstream/upstream) + (555.6 yd^3 x 2.4 large

downstream/upstream) = 1,358.6 yd^3 (1,924.7 yd^3)

Channel/Basin Sediment Removal (Anticipated 2 small projects/year and 1 large every 3 years)

- Typical Small Project Sediment Creek Area = (4 feet wide by 10 feet long) =40 ft^2
- Typical Small Project Sediment Creek Volume = (4 feet wide by 10 feet long by 1 feet deep)/27=1.5 yd^3
- Typical Large Project Sediment Creek Area = (150 feet wide by 250 feet long) =37,500 ft^2
- Typical Large Project Sediment Creek Volume = (150 feet wide by 250 feet long by 4 feet deep)/27=5,555.6 yd^3
- Typical Small Project Sediment Basin Area = (4 feet wide by 10 feet long) =40 ft^2
- Typical Small Project Sediment Basin Volume = (4 feet wide by 10 feet long by 2 feet deep)/27=2.9 yd^3
- Typical Large Project Sediment Basin Area = (250 feet wide by 250 feet long) =62,500 ft^2
- Typical Large Project Sediment Basin Volume = (250 feet wide by 250 feet long by 4 feet deep)/27= 9,259.3 yd^3
    - 12-year cumulative estimate (17-year cumulative estimate)
    - Area: (40 ft^2 x 12 small creek projects) + (40 ft^2 x 12 small basin projects) + (37,500 ft^2 x 2 large creek projects) + (62,500 ft^2 x 2 large basin projects) = 200,960 ft^2 (284,693 ft^2)
    - Volume: (1.5 yd^3 x 12 small creek projects) + (2.9 yd^3 x 12 small basin projects) + (5,555.6 yd^3 x 2 large creek projects) + (9,259.3 yd^3 x 2 large basin projects) = 29,682.6 yd^3 (42,050.35 yd^3)

Potential Mitigation Alternatives for Permanent Impacts

The following tasks may be implemented as compensatory mitigation for permanent impacts associated with routine maintenance tasks.

Adopt-a-Creek Program

The City would partner with nonprofits, businesses and residents to perform creek/drainage trash and invasive species removals and restoration activities through the City's Adopt-a-Creek program. Creek restoration activities may consist of trash abatement, invasive plant removal, and plantings of local native species to improve fish and wildlife habitat, protect water quality and stabilize bank erosion. Program activities may include group "volunteer cleanup/work days" or small scale individual restoration or enhancement projects (for example, "Eagle Scout" projects).

Through the Adopt-a-Creek program, the City will establish long-term creek adoption commitments from non-profits such as Dry Creek Conservancy, Trout Unlimited and Granite Bay Flycasters, businesses and citizen's groups. These partnerships will increase community capacity and awareness of creek and watershed issues and foster a cohesive working relationship between the City and these groups. The City plans to jointly apply for creek restoration grants with these groups.

Creek Restoration and Erosion Repair Projects

The City would restore locations with existing bank erosion or scour problems to improve riparian habitat value and water quality. Potential restoration project locations within Linda Creek, Cirby Creek, Dry Creek, Secret Ravine, and Strap Ravine are identified on Figure 3. Project Area. If additional sections of creek channel outside of those specified on Figure 3 develop serious bank erosion issues during the 12-year (17-years if extended) life span of the RMA, the City may add those locations (with CDFW concurrence) to the list of potential creek restoration and erosion repair projects.

Restoration activities would likely involve the following steps: removal of non-native vegetation; re-grading eroded, scoured, or undercut portions of the creek to more stable and natural topography; and bio-stabilization of the restoration area to prevent future erosion.

Bio-stabilization would involve installing biodegradable geotextile fabric (e.g. coconut coir erosion control blankets, fibers rolls) and native riparian vegetation to stabilize the restoration area and provide long term riparian habitat. Areas at or below the Ordinary High Water Mark (OHWM) may be stabilized with a combination of biodegradable geotextile fabric and fast growing native species which may include common buttonbush (*Cephalanthus occidentalis*), sandbar willow (*Salix exigua*), or native sedge (*Carex* sp.) and rush

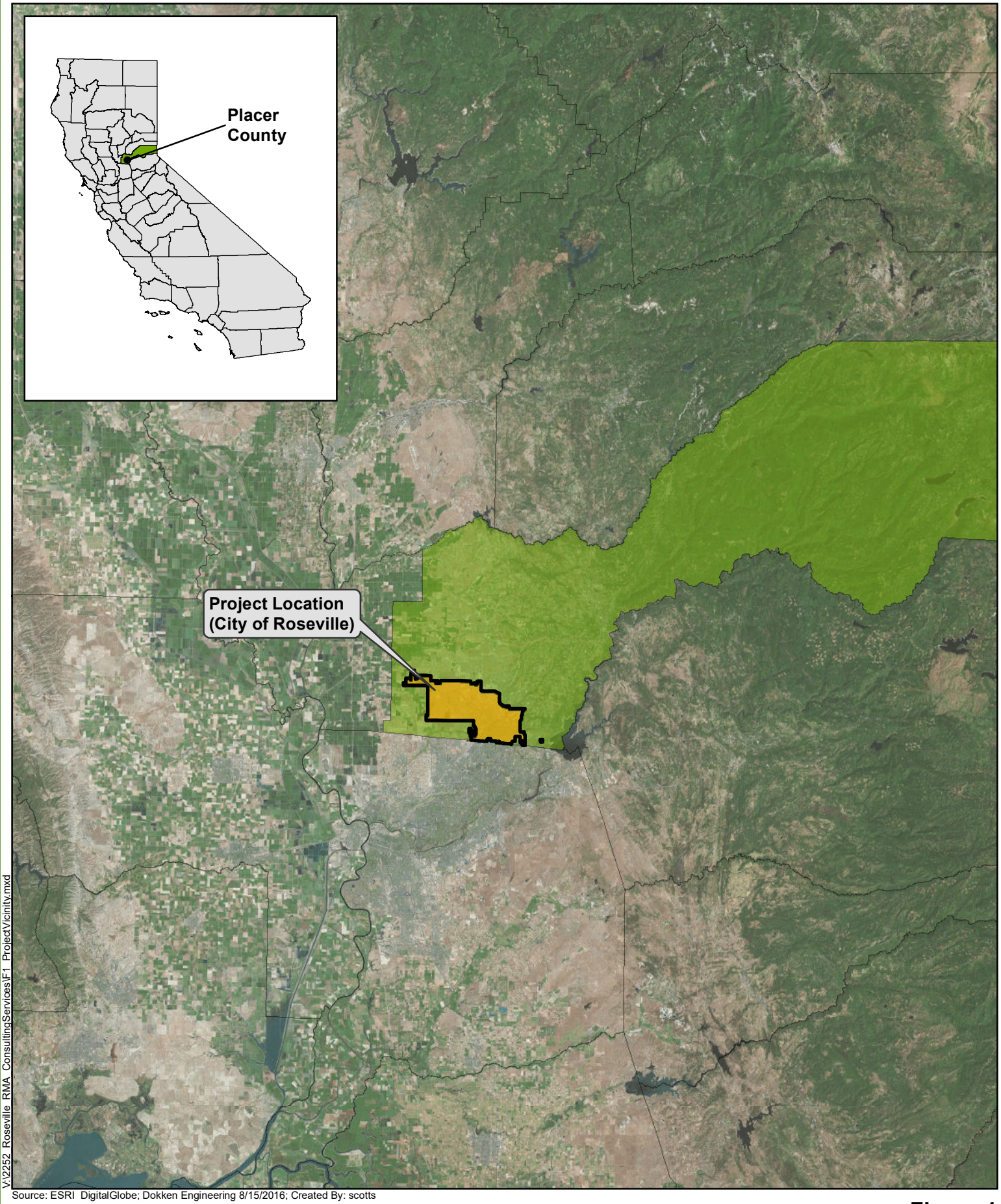
(*Juncus* sp.). Banks and floodplains would be planted with riparian trees and shrubs typical to the region and may include Fremont's cottonwood (*Populous fremontii*), California sycamore (*Platanus racemose*), white alder (*Alnus rhombifolia*), Goodding's black willow (*Salix gooddingii*), California buckeye (*Aesculus californica*), blue elderberry (*Sambucus mexicana*) or common buttonbush. Herbaceous understory species including California mugwort (Artemisia douglasiana), California blackberry, sedge, rush, or poison oak may be added to the restoration site above the OHWM either by installing plugs or broadcasting a seed mix.

Invasive Species Removal

The City would remove non-native vegetation (e.g., arundo, periwinkle, English ivy, Algerian ivy, Chinese tallow, red sesbania, Spanish broom, scotch broom, tree-of-heaven, black locust, tree tobacco, castor bean, pampas grass, green fountain grass, eucalyptus, saltcedar, Russian olive, water hyacinth, edible fig) and install native vegetation either by applying a native seed mix or installing container plants.

Conversion of Concrete-Lined Channels

Removal of concrete lining from channels will entail removing concrete lining, restoring the channel to natural, self-sustaining topography, and revegetating the banks with site appropriate native riparian vegetation. The City may undertake projects to convert existing concrete-lined channels to a more natural state to improve water quality, improve aesthetic values, or provide compensatory mitigation for permanent impacts associated with routine maintenance activities.

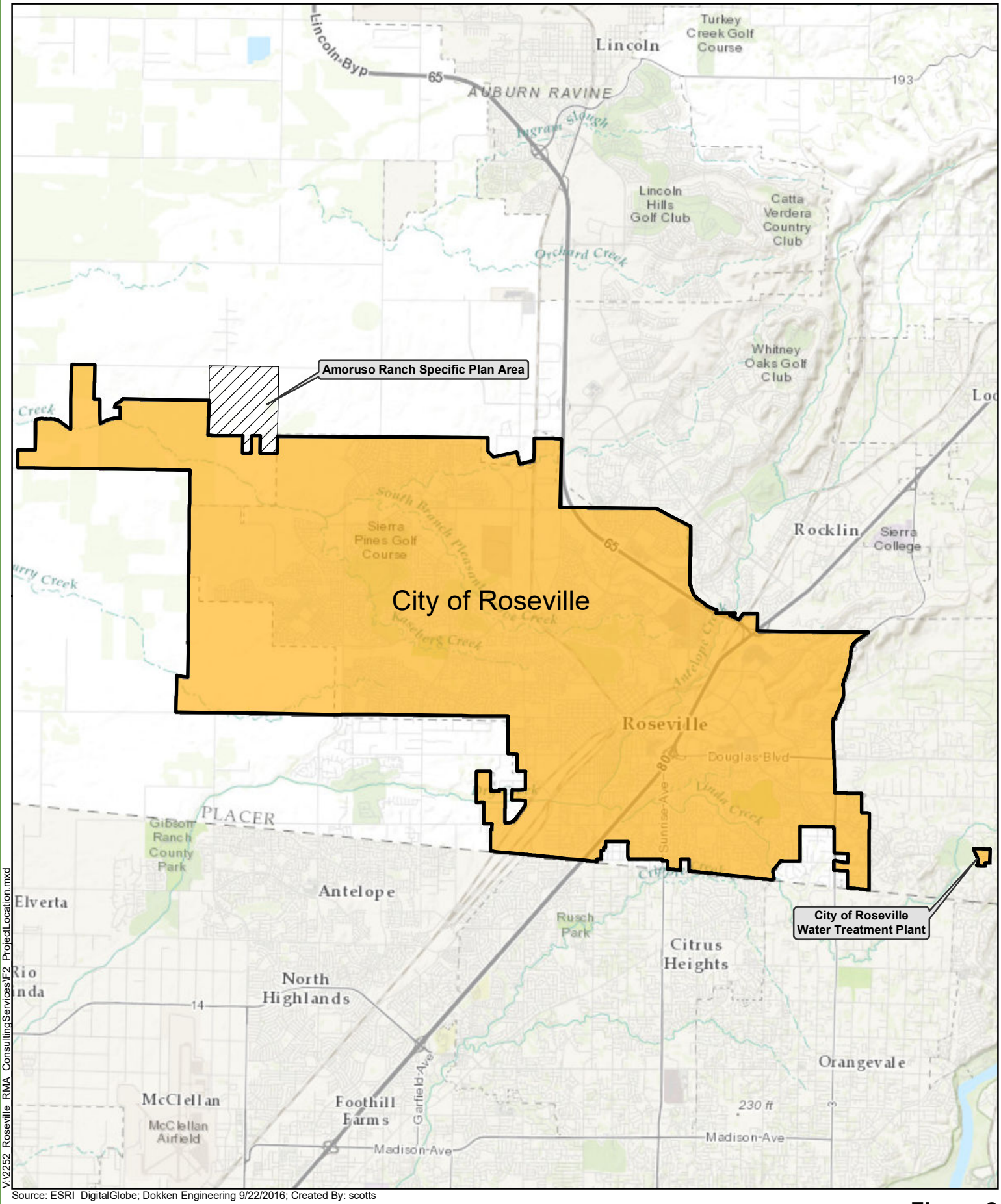


V:\2252 Roseville RMA ConsultingServices\F1 ProjectVicinity.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 8/15/2016; Created By: scotts

0 10 20
Miles

Figure 1
Project Vicinity
Routine Maintenance of Stream Channels and Drainage Facilities
City of Roseville, Placer County

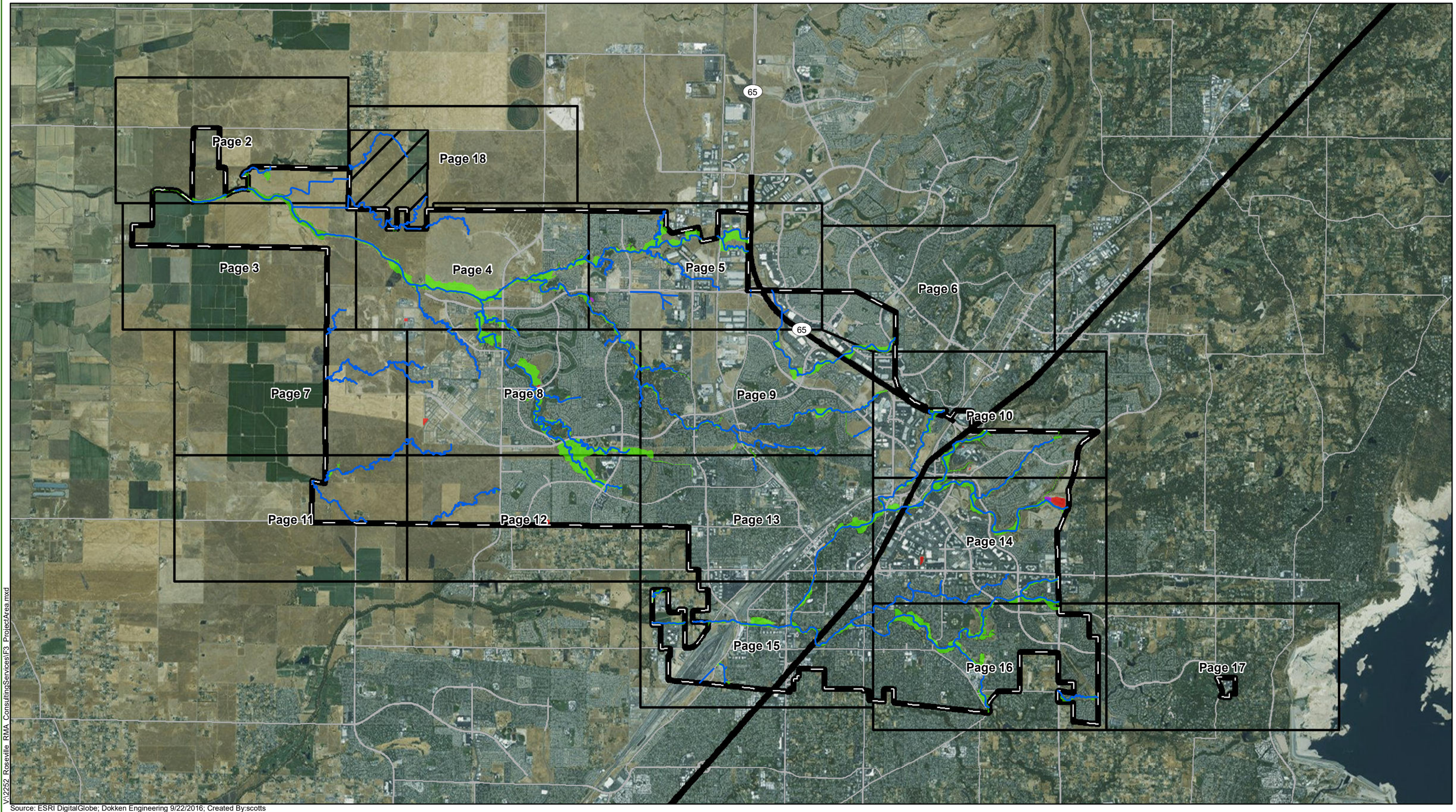


V:\2252 Roseville RMA ConsultingServices\F2 ProjectLocation.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By: scotts

0 1 2 Miles

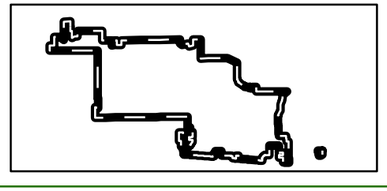
Figure 2
Project Location
Routine Maintenance of Stream Channels and Drainage Facilities
City of Roseville, Placer County



V:\2252 Roseville RMA Consulting Services\F3 ProjectArea.mxd

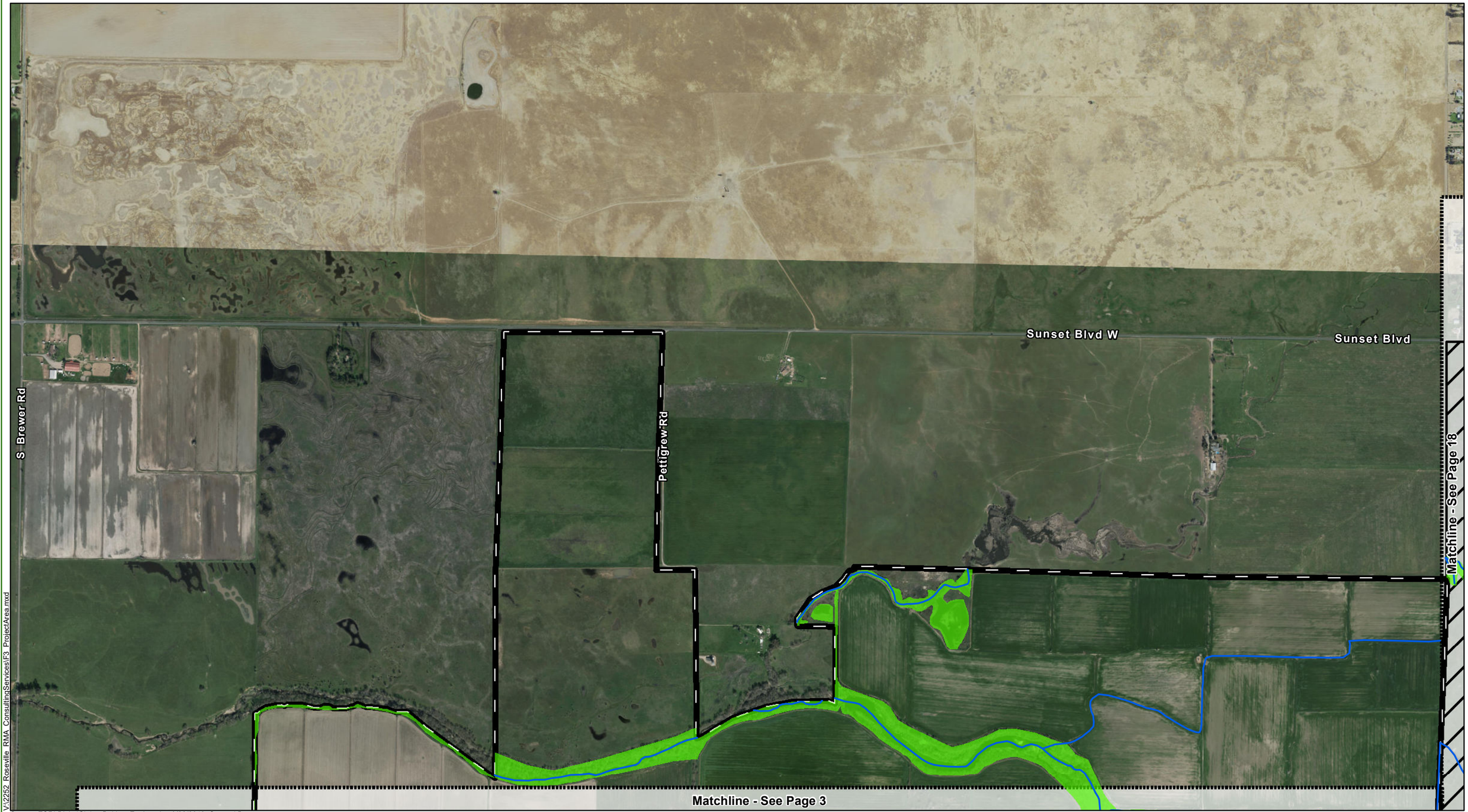
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 6,000 12,000 18,000 24,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

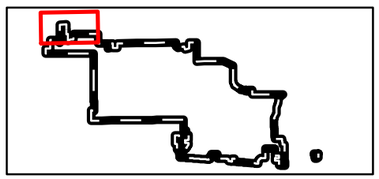
FIGURE 3
Page 1 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA Consulting Services\F3 ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 2 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 2

Pettigrew Rd

Philip Rd

Phillip Rd

Matchline - See Page 4

Country Acres Ln

Matchline - See Page 7

V:\2252_Roseville_RMA_ConsultingServices\F3_ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 3 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 18

Matchline - See Page 3

Matchline - See Page 5

Northpark Dr

Phillip Rd

Fiddyment Rd

Blue Oaks Blvd

Stagecoach Cir

Northstar Ln

Rosestone Ln

Timberrose Way

Council Rock Rd

Del Webb Blvd

Hayride Ln

Cope Ridge Way

Buckskin Ln

Early Way

Tail Race Dr

Whistlestop Way

Curnan Way

Matchline - See Page 7

Matchline - See Page 8

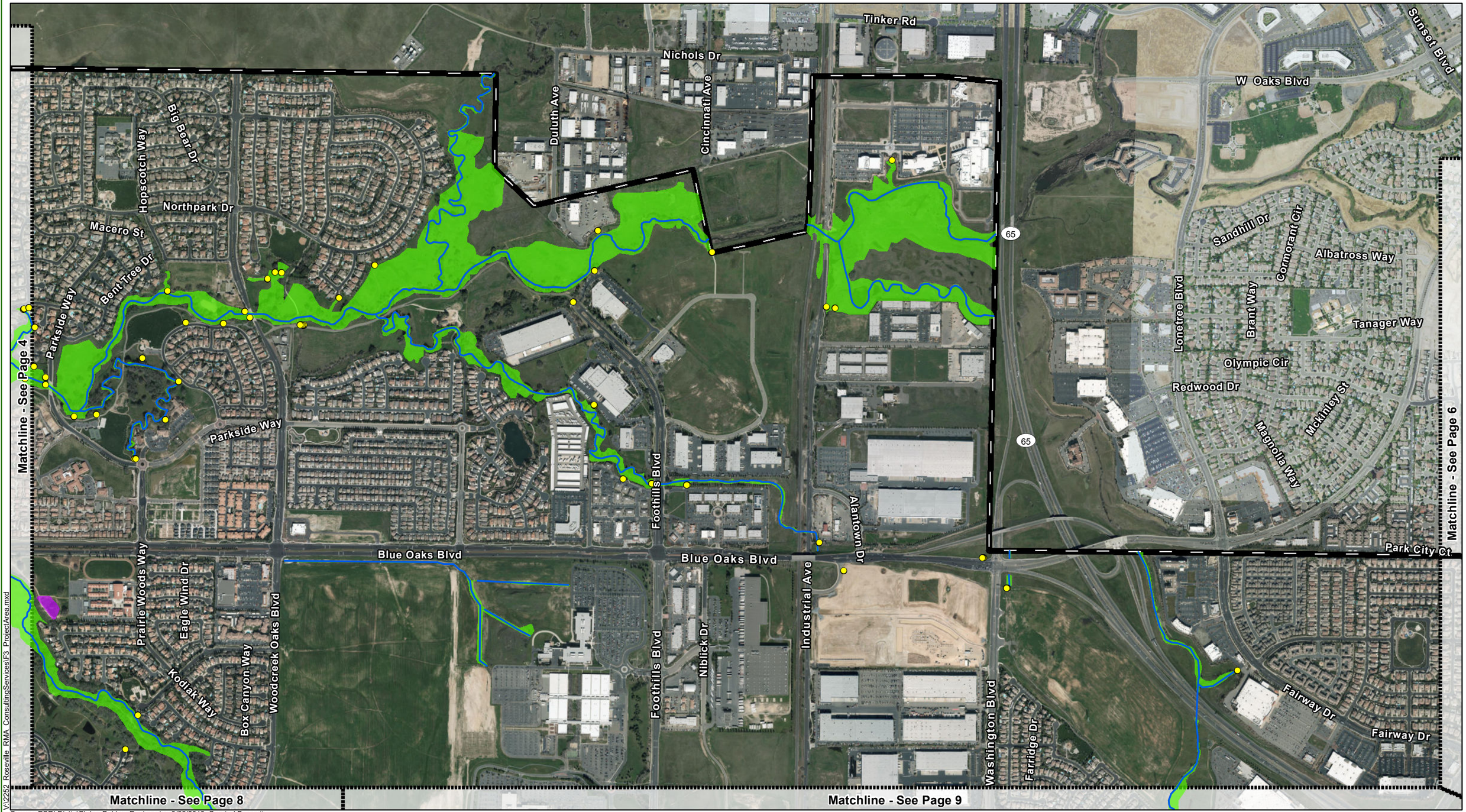
V:\2252 Roseville RMA Consulting\Services\F3 ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

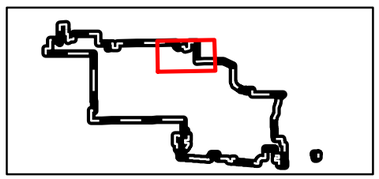
FIGURE 3
Page 4 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA ConsultingServices\F3 ProjectArea.mxd

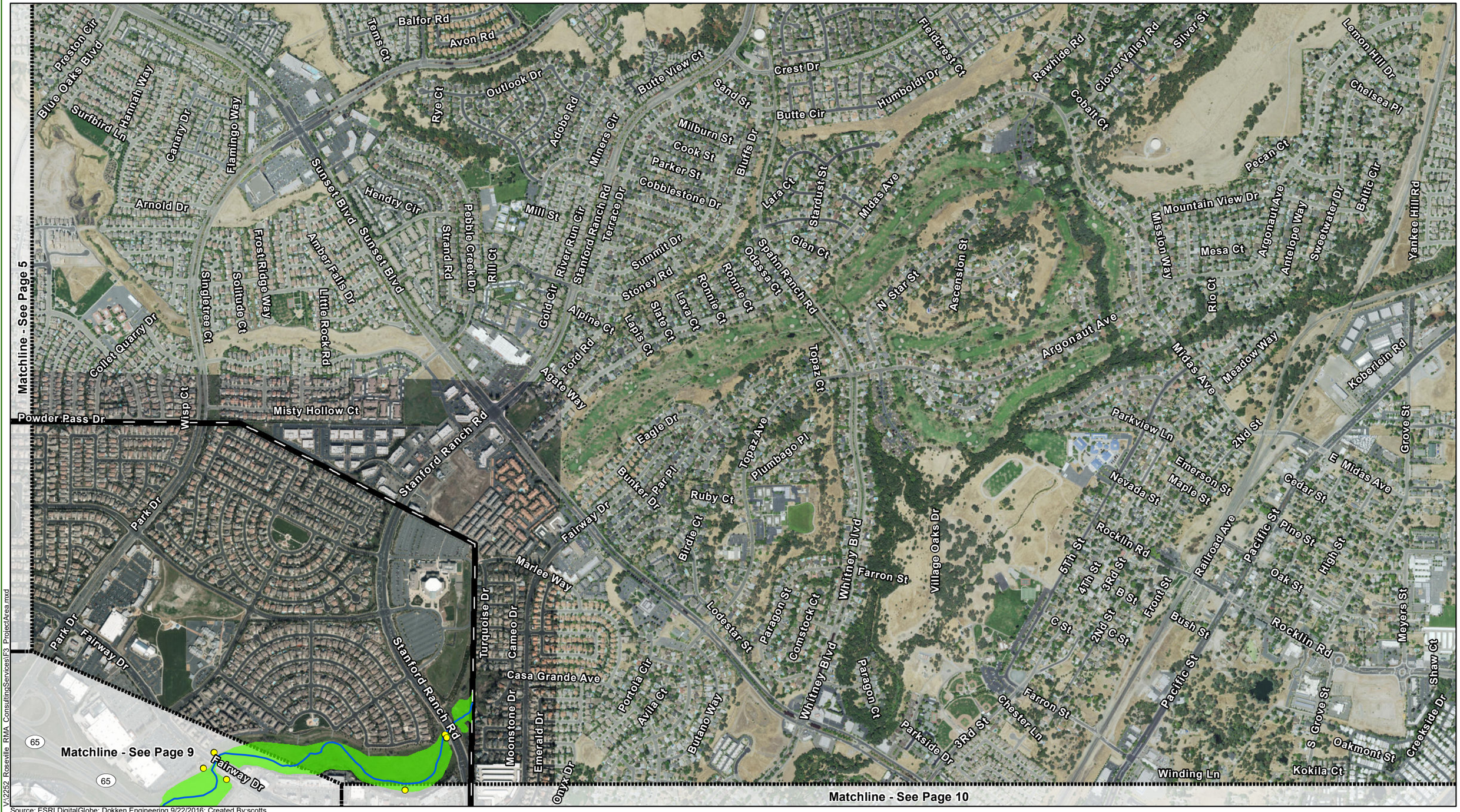
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 5 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA Consulting\Services\F3 ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 6 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 3

Matchline - See Page 4

Country Acres Ln

Country Acres Ln

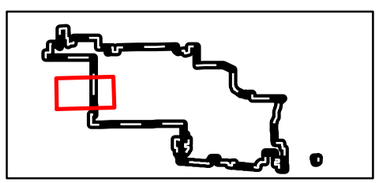
Matchline - See Page 8

Matchline - See Page 11

V:\2252 Roseville RMA Consulting\Services\F3 ProjectArea.mxd

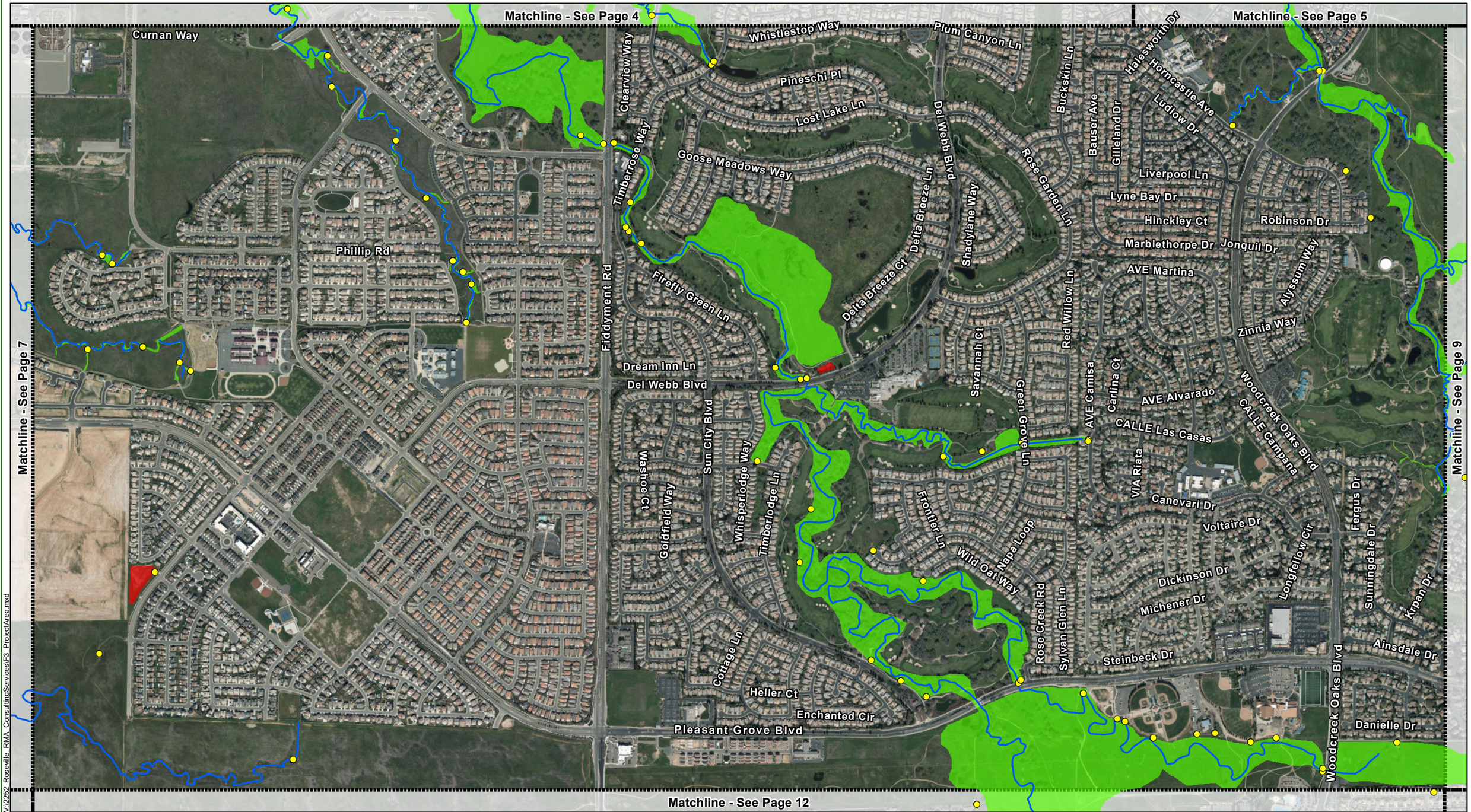
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

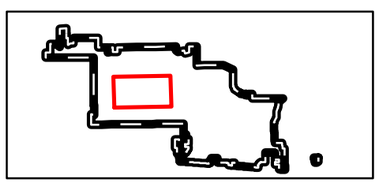
FIGURE 3
Page 7 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA ConsultingServices\F3 ProjectArea.mxd

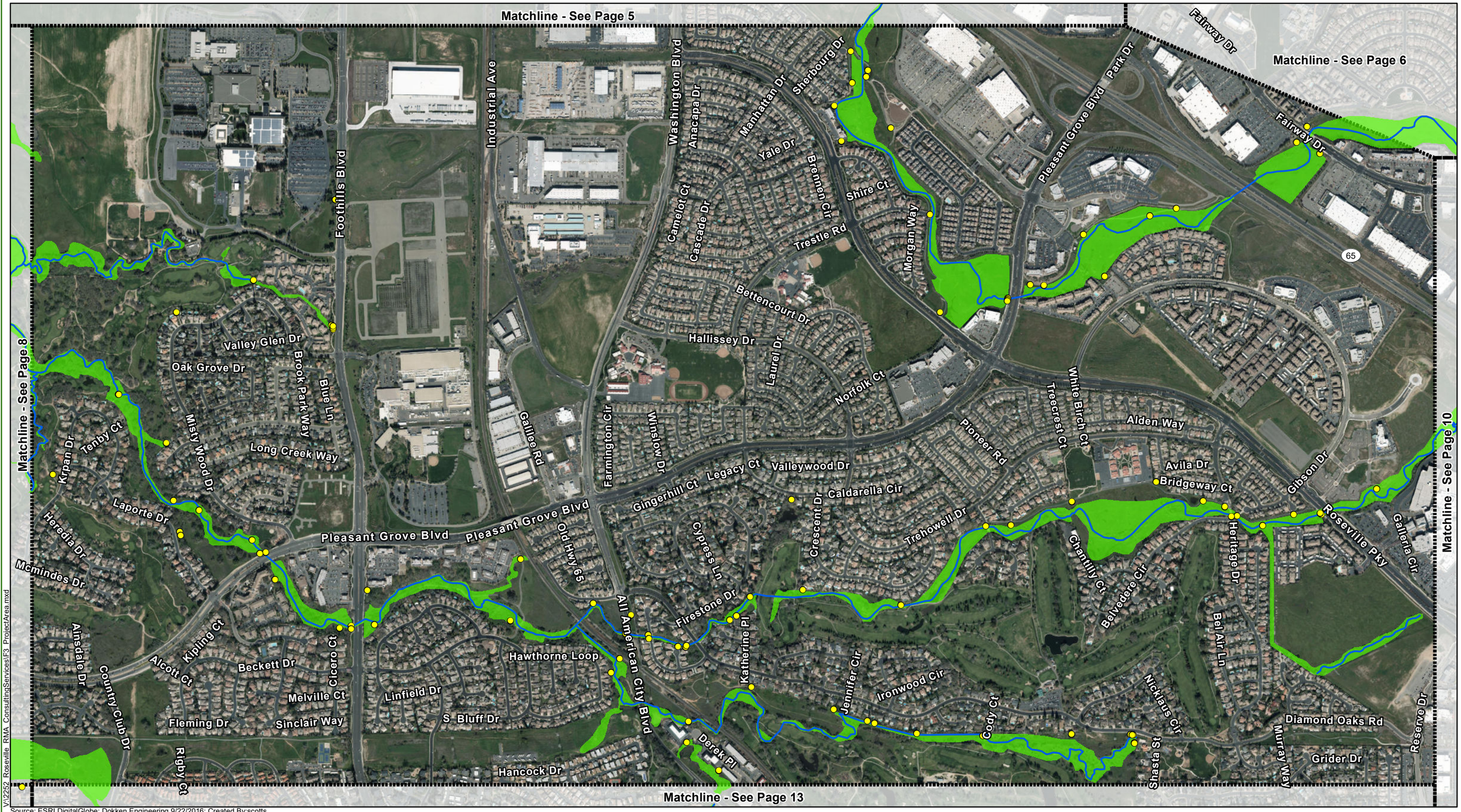
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

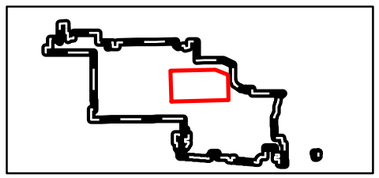
FIGURE 3
Page 8 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

V:\2252_Roseville_RMA_ConsultingServices\F3_ProjectArea.mxd

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 9 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 6
Winding Ln
Willard Way
Sunset Blvd
Ruhkala Rd
Lost Ave
S Grove St
Oakridge St
China Garden Rd
Corona Cir
Foothill Rd
Aguilar Rd
Keller Ct
Kannasto St
Evelyn Ave
Greenbrae Rd
Rustic Hills Dr
Fairway Dr
Five Star Blvd
Stanford Ranch Rd
Onyx Dr
Inyo Ct
Pinnacles Dr
S Whitney Blvd
Bryce Way
Allan Ct
Allan Dr
Willowynd Dr
Lincoln Ave
Springview Dr
Doheny Ct
Bridal Veil Dr
Destiny Dr
Rainier Ave
Meadowdale Ct
Sequoia Ct
Merrywood Dr
Woodside Dr
Cone Ct
Kingwood Cir
Hickory Way
Rippling Way
65
80
Matchline - See Page 9
Galleria Cir
Galleria Blvd
Pacific St
Westwood Dr
Hemlock Way
Longview Dr
Echo Ridge Rd
Tenbury Ln
Scarborough Dr
Camborne Way
Antelope Creek Dr
Taylor Rd
Stonehouse Ct
Tadworth Way
Sierra College Blvd
Roseville Pky
Roseville Pky
Roseville Pky
Galleria Blvd
Secret Ravine Dr
Private Rd
E Roseville Pky
E Roseville Pky
Hidden Valley Pl
Baywood Rd
Matchline - See Page 13
Matchline - See Page 14
V:\2252 Roseville RMA Consulting Services\F3 ProjectArea.mxd
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary
Amoruso Ranch Specific Plan Area
Jurisdictional Creek Channel
Outfall Location
Jurisdictional Habitat
Jurisdictional Detention Basins
Non-Jurisdictional Detention Basin
Potential Restoration Projects

FIGURE 3
Page 10 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 7

Country Acres Ln

Base Line Rd

Baseline Rd

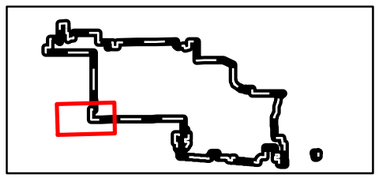
Matchline - See Page 12

Watt Ave

V:\2252_Roseville_RMA_ConsultingServices\F3_ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 11 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 8

Matchline - See Page 11

Matchline - See Page 13

Hummingbird Way
Derrylin Dr
Westhills Dr
Roadrunner Dr
Blackbird St
Aylesbury Way
Hilmerton Cir
Privett Ct
Acton Way
Thunderbird Ct
Troon Ct
Caragh St
Brookline Cir
Woodcreek Oaks Blvd
Turnberry Ln
Junction Blvd
Ledbury St
Killarney St
Hatton Ct
Atwell St
Luton Dr
Vanston Way
Knowlton Ct
Pennell Ct
Hadnall Ct
Blanchard Dr
Lockhart Way
Mill Run Dr
Base Line Rd
Baseline Rd
Baseline Rd
Base Line Rd
Base Line Rd
Morningstar Dr
Ambridge Dr
Darby St
Stonecrest Dr
Tatiana St
Fiddyment Rd
Westlake Dr
Malachite Way
Sunstone Dr
Cadfael St
Magenta Dr
Park Regency Dr
Mockingbird St
Tanager Way
Whitstable Dr
Dashwood Dr
Varick Dr
Mifflen Ct
Eriswell Dr
Lathwell Way
Horne Ct
Cargill Way
Country Club Dr
Formby Way
Marinette Ln
Soledad Dr
San Jose Way
Santa Ines St
San Diego Cir
Casterbridge Dr
Cressida St
Goldstar St
Snow Goose Way
Carolyn Ct
Oak Ave
Central Ave
Kenwood Way
Blackwood Ln
Central Ave
Crowder Ln
Walerga Rd
Muirwood Ln
Tiny Ln
Cook Riolo Rd
Country Place Dr
Bianchi Rd
Vineyard Ln
Mercedes Pl
Vineyard Rd
Eva Ln

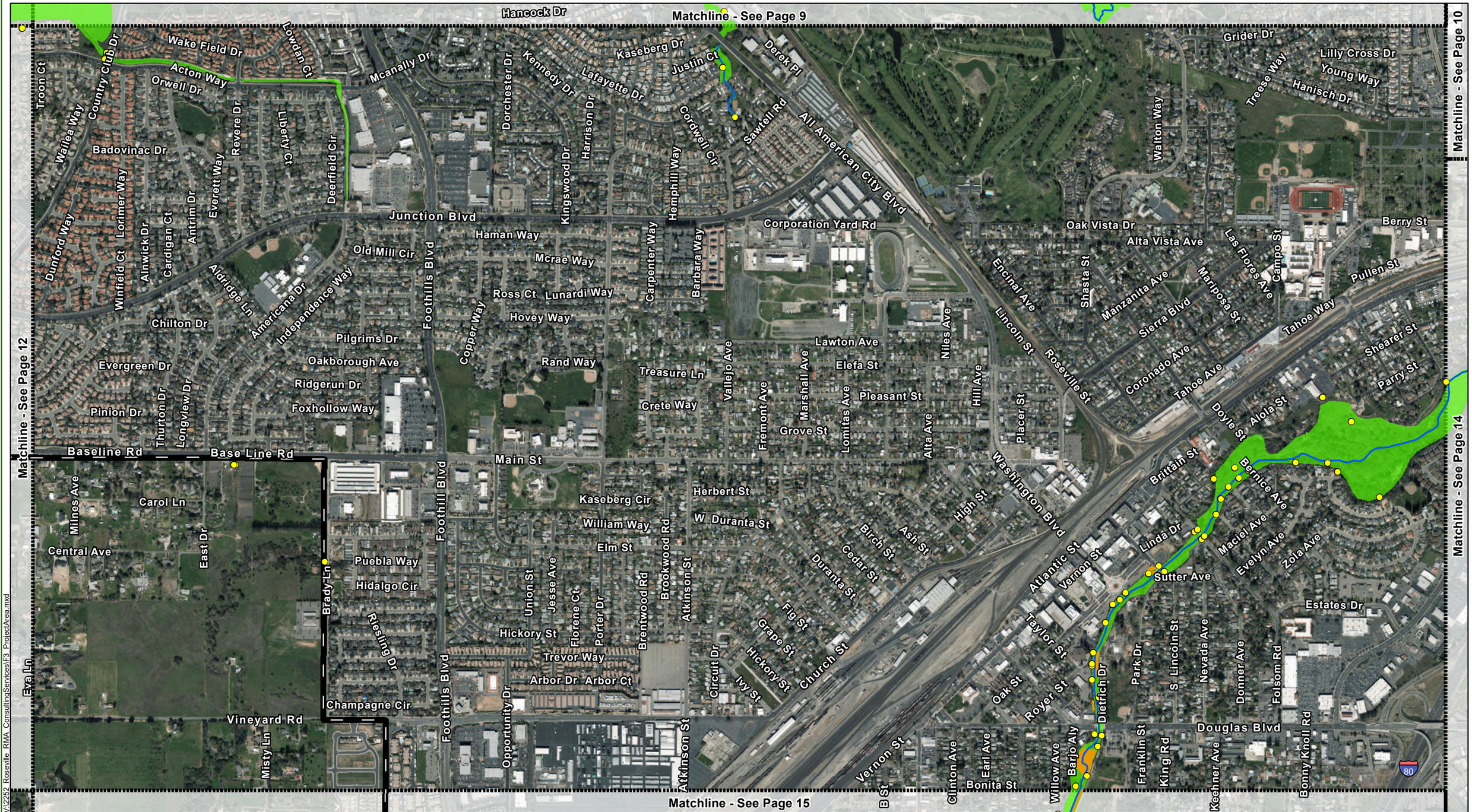
V:\2252 Roseville RMA ConsultingServices\F3 ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 12 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA Consulting\Services\F3 ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

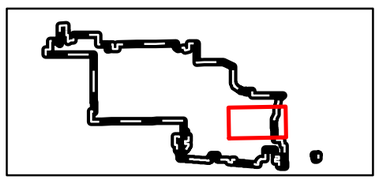
- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 13 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

V:\2252 Roseville RMA Consulting\Services\F3 ProjectArea.mxd

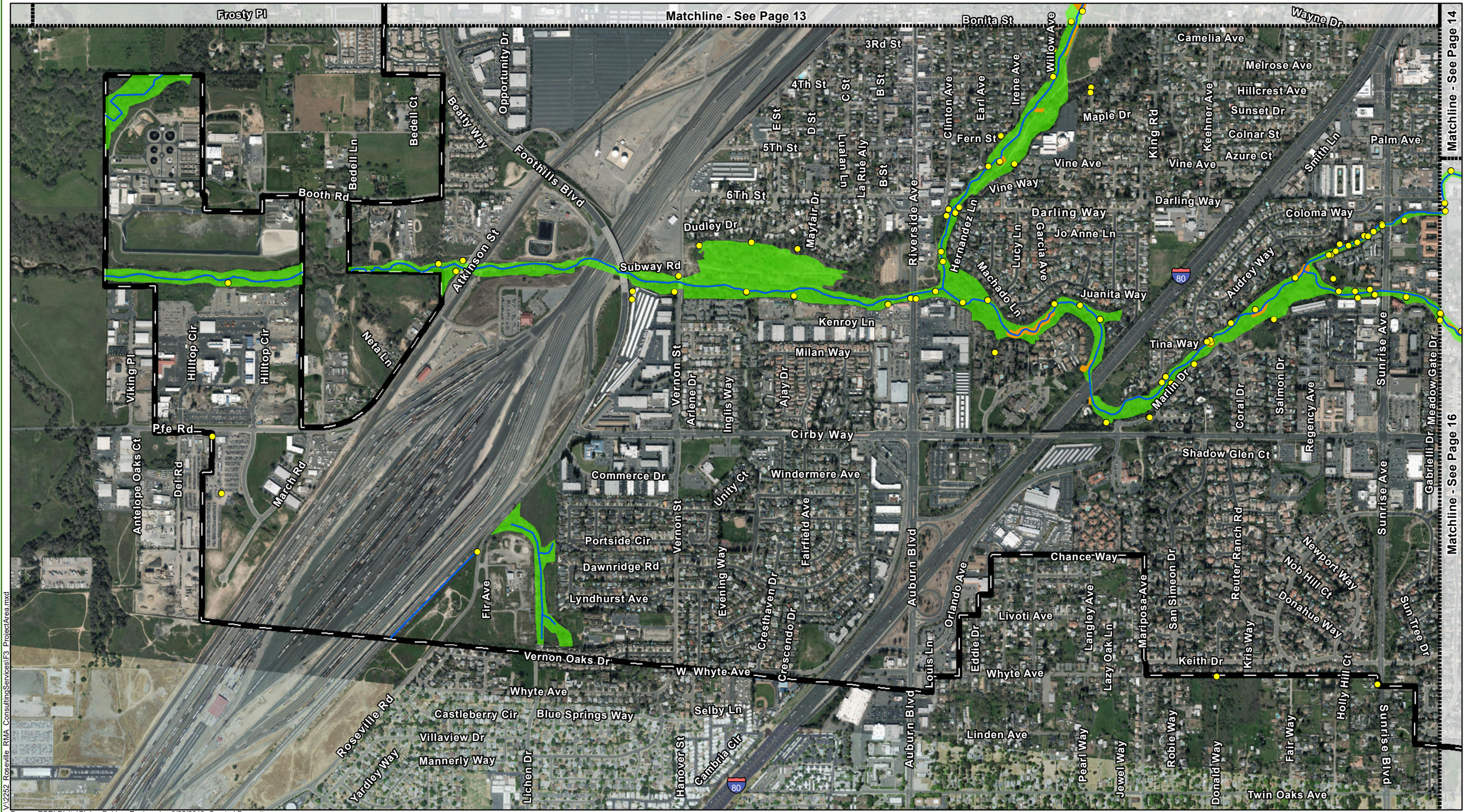
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

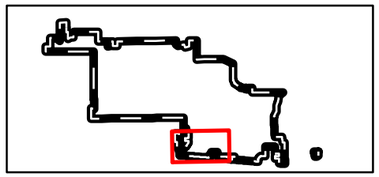
FIGURE 3
Page 14 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252_Roseville_RMA_ConsultingServices\F3_ProjectArea.mxd

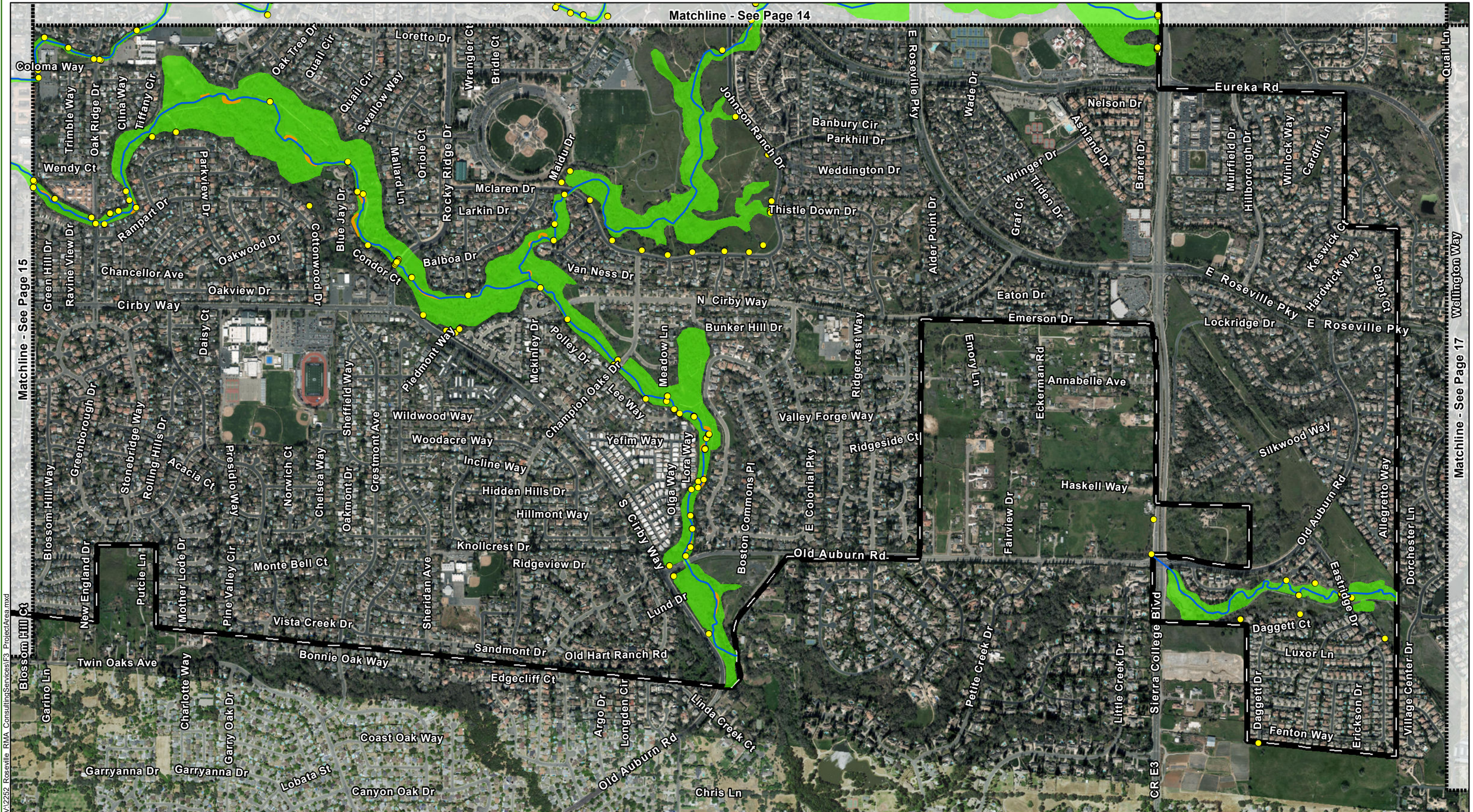
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 15 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



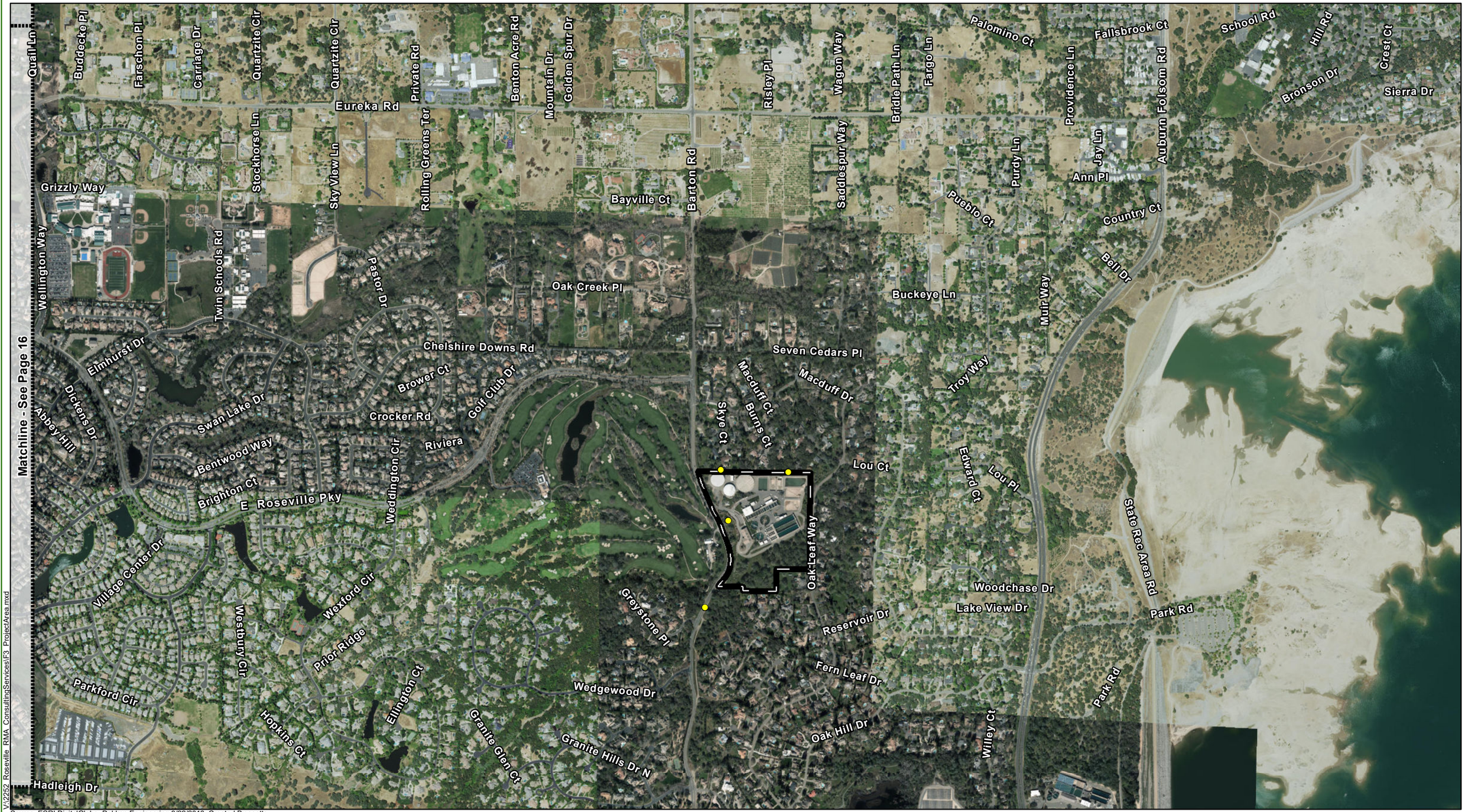
V:\2252 Roseville RMA Consulting\Services\F3 Project\Area.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 16 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252_Roseville_RMA_ConsultingServices\F3_ProjectArea.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

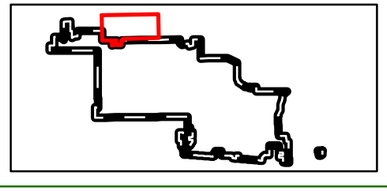
FIGURE 3
Page 17 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California

Dinky Ln
Amoruso Way
S Dowd Ave
Sunset Blvd W
Fiddyment Rd
Amoruso Ave
Matchline - See Page 2
Matchline - See Page 3
Matchline - See Page 4

V:\2252 Roseville RMA ConsultingServices\F3 ProjectArea.mxd

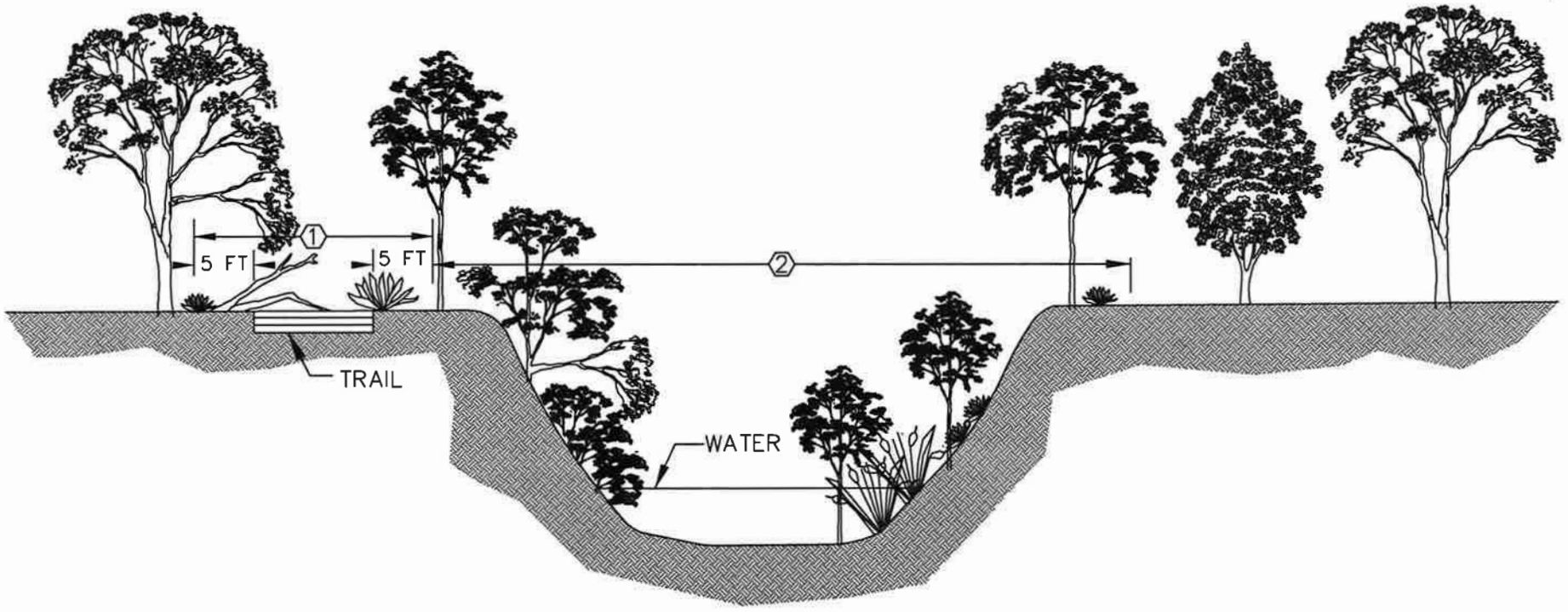
Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



- City Boundary
- Amoruso Ranch Specific Plan Area
- Jurisdictional Creek Channel
- Outfall Location
- Jurisdictional Habitat
- Jurisdictional Detention Basins
- Non-Jurisdictional Detention Basin
- Potential Restoration Projects

FIGURE 3
Page 18 of 18
Project Area
City of Roseville RMA
City of Roseville, Placer County, California



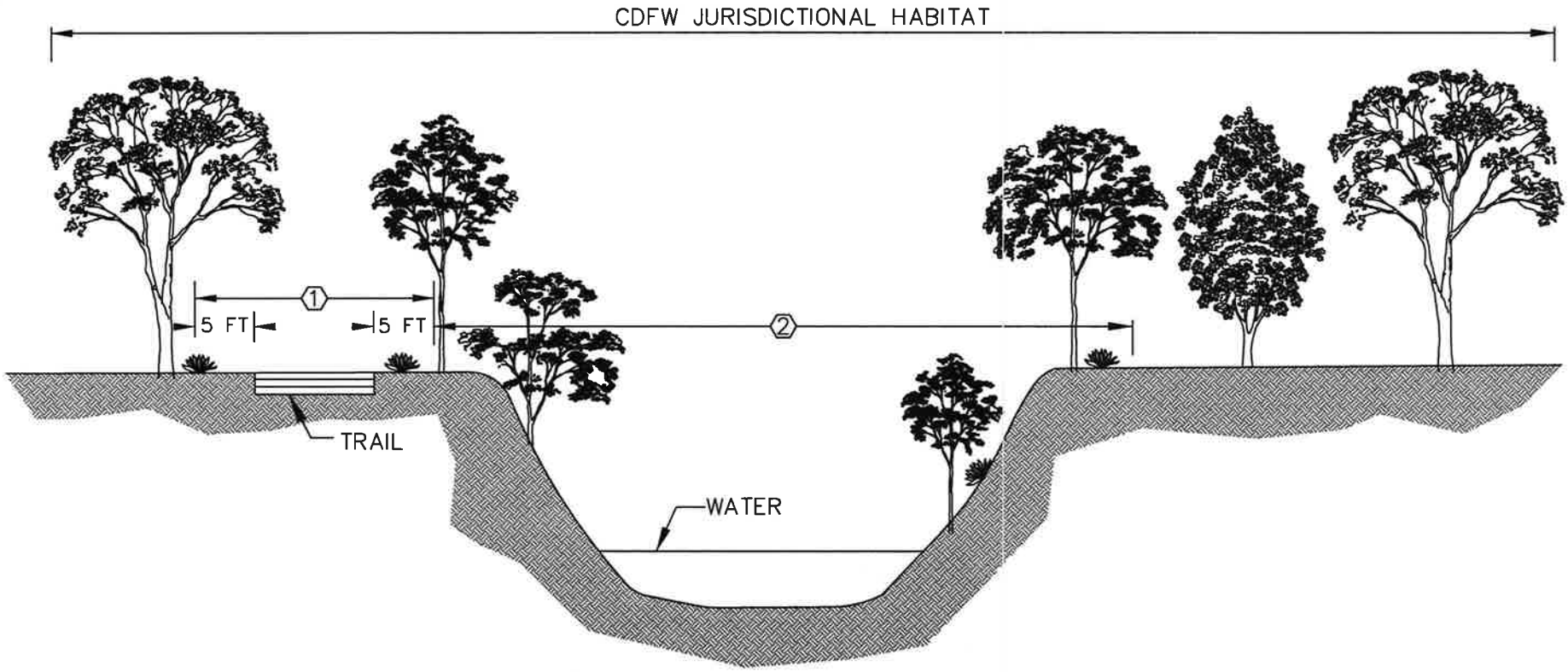
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

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 Roseville, Placer County, California



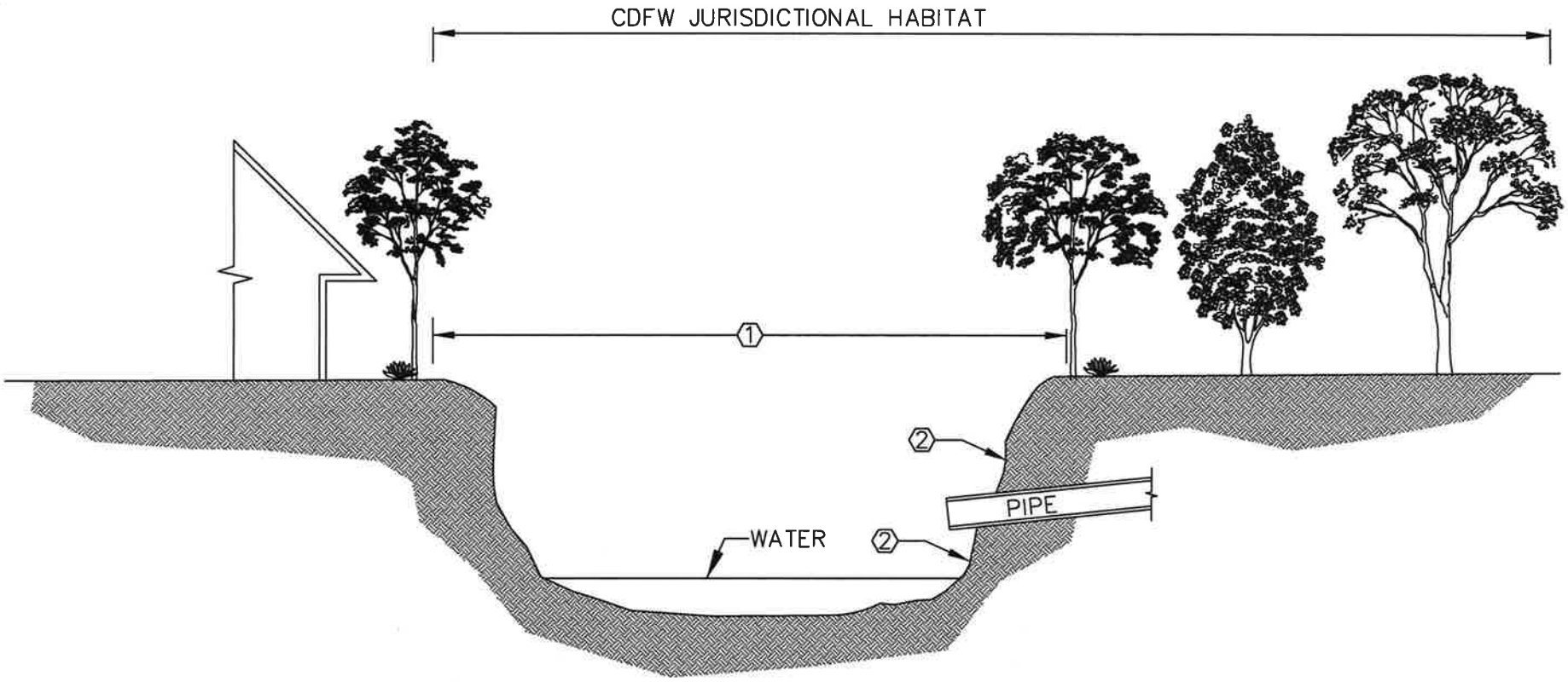
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

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 Roseville, Placer 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 Roseville, Placer County, California

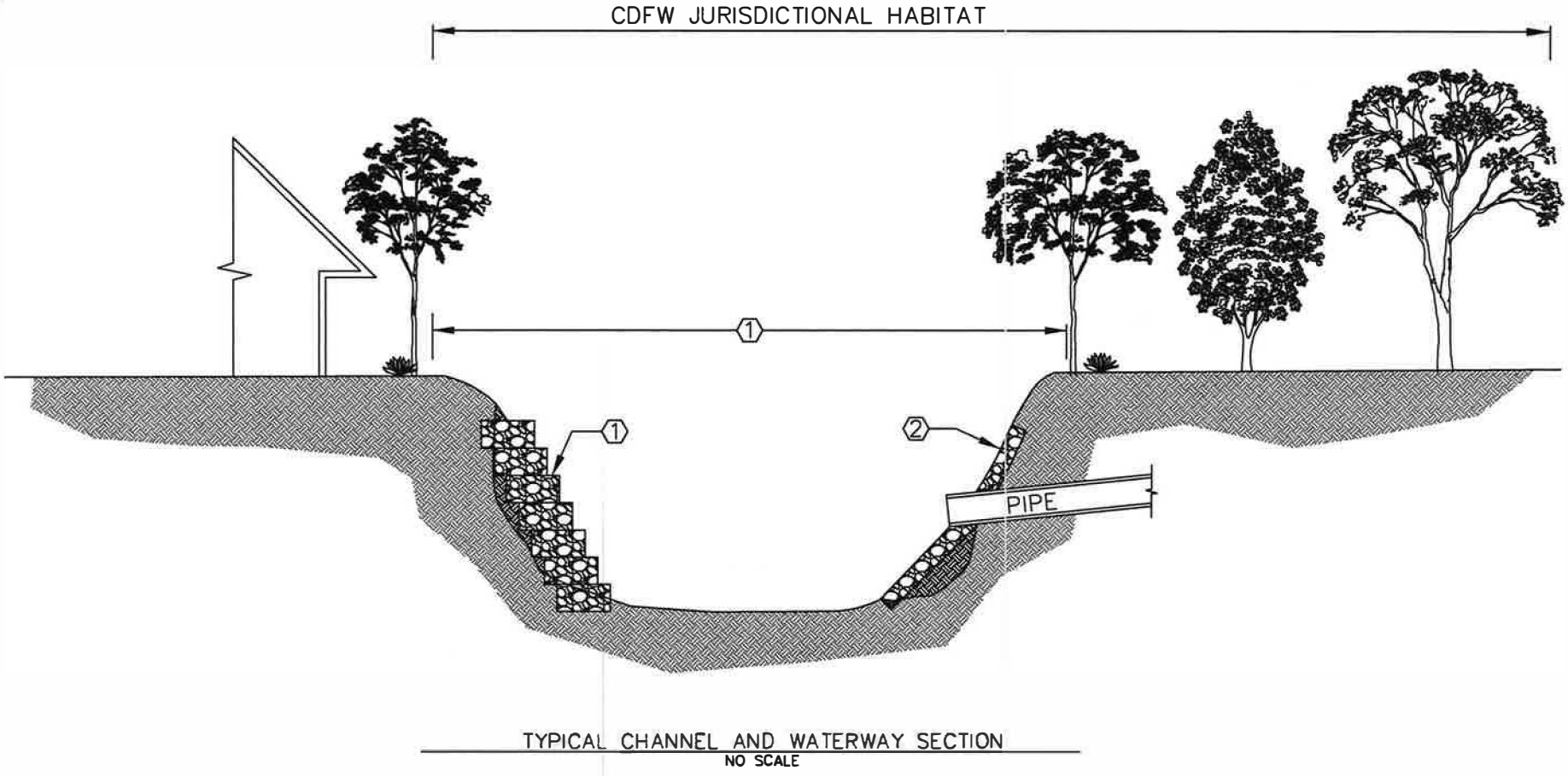
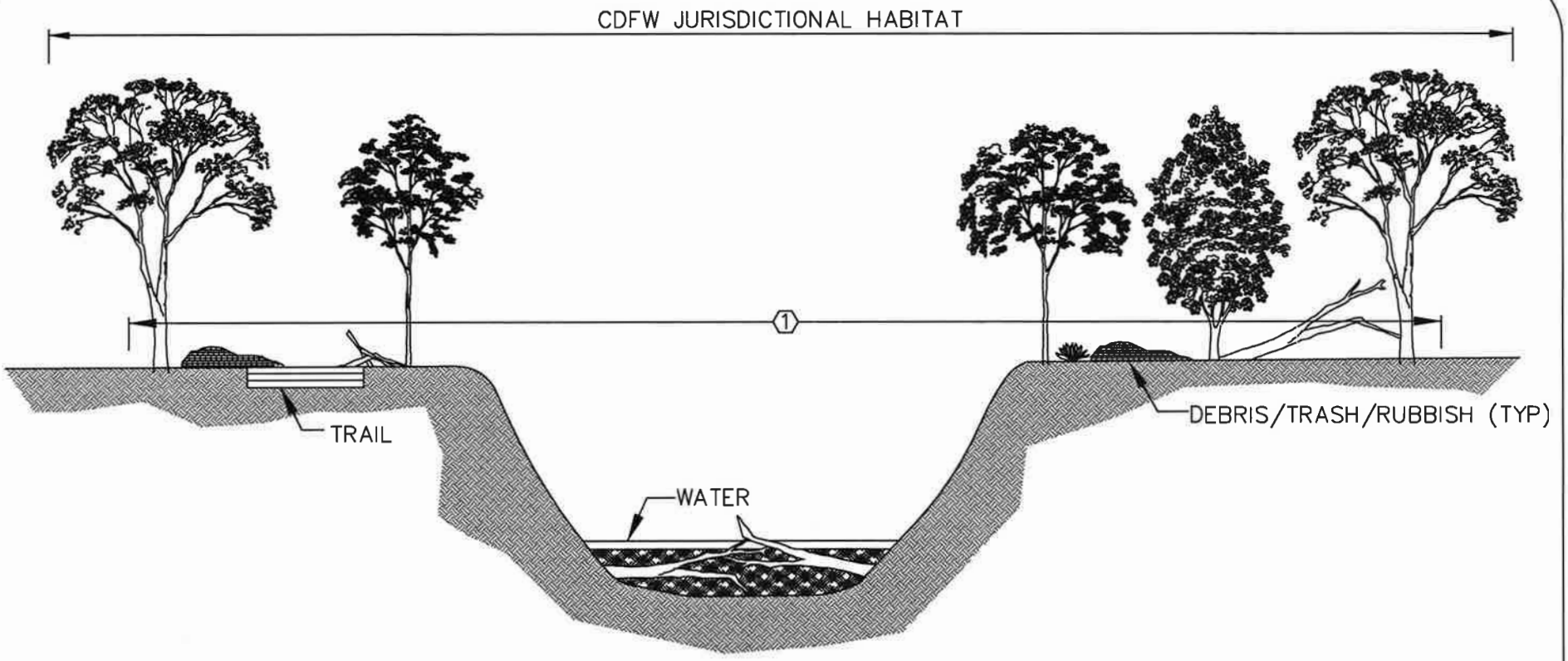


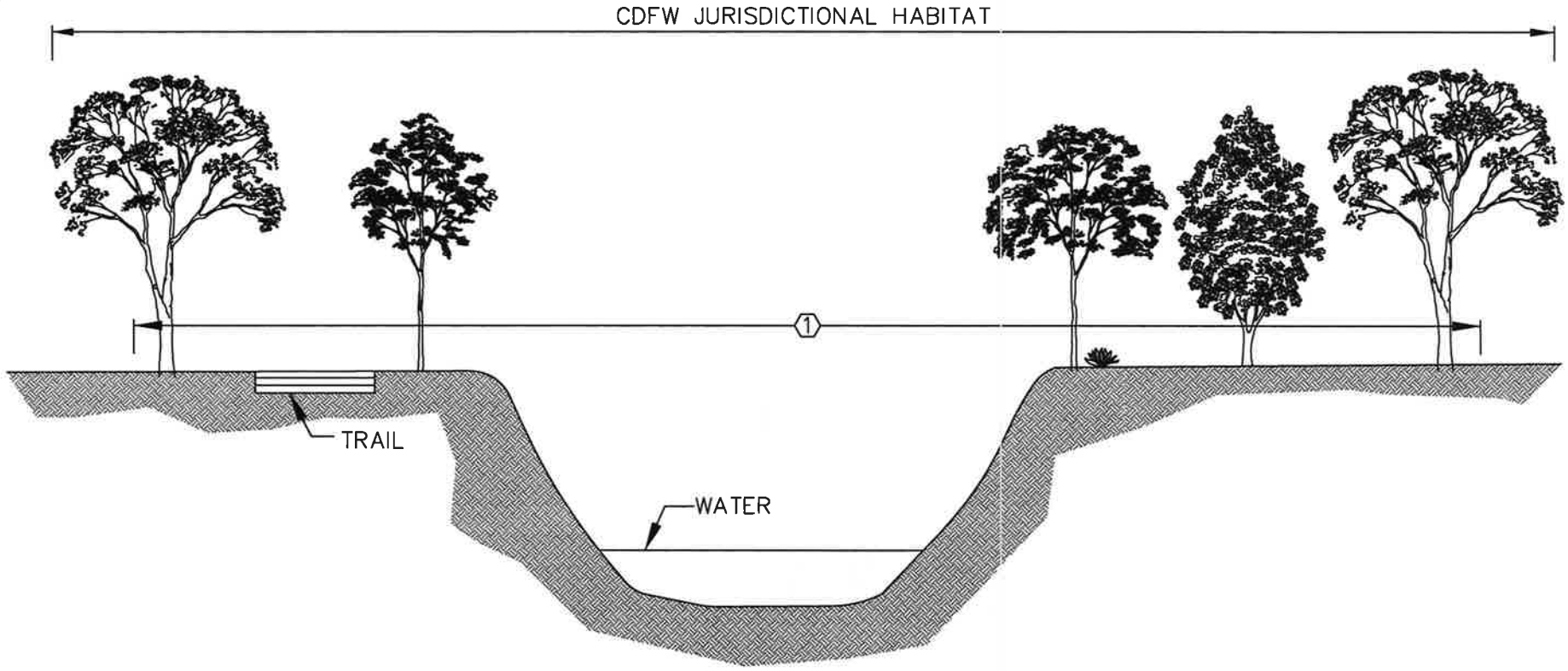
FIGURE 4 - 2B
Typical Cross Sections
Post-Channel Alignment Maintenance and Erosion Control
Routine Maintenance of Stream Channels and Drainage Facilities
City of Roseville, Placer County, California



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 Roseville, Placer County, California

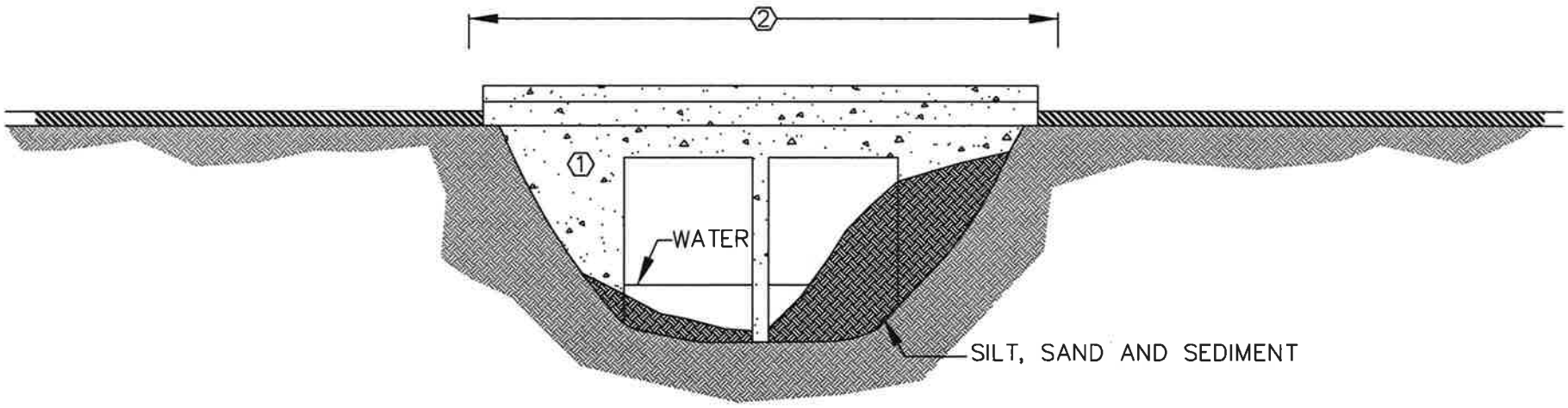


TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

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 Roseville, Placer County, California



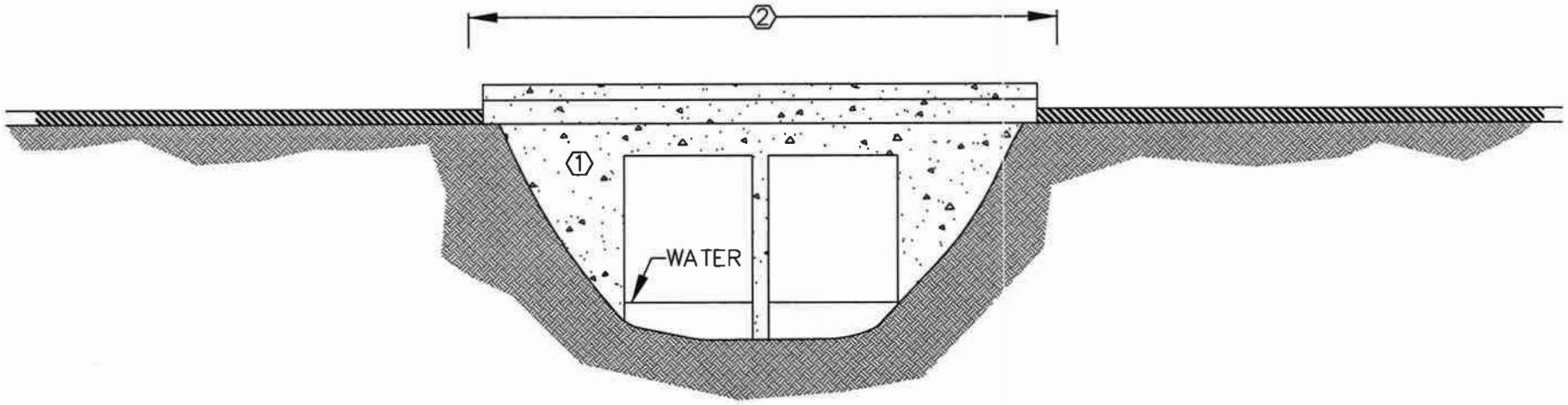
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

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 Roseville, Placer County, California



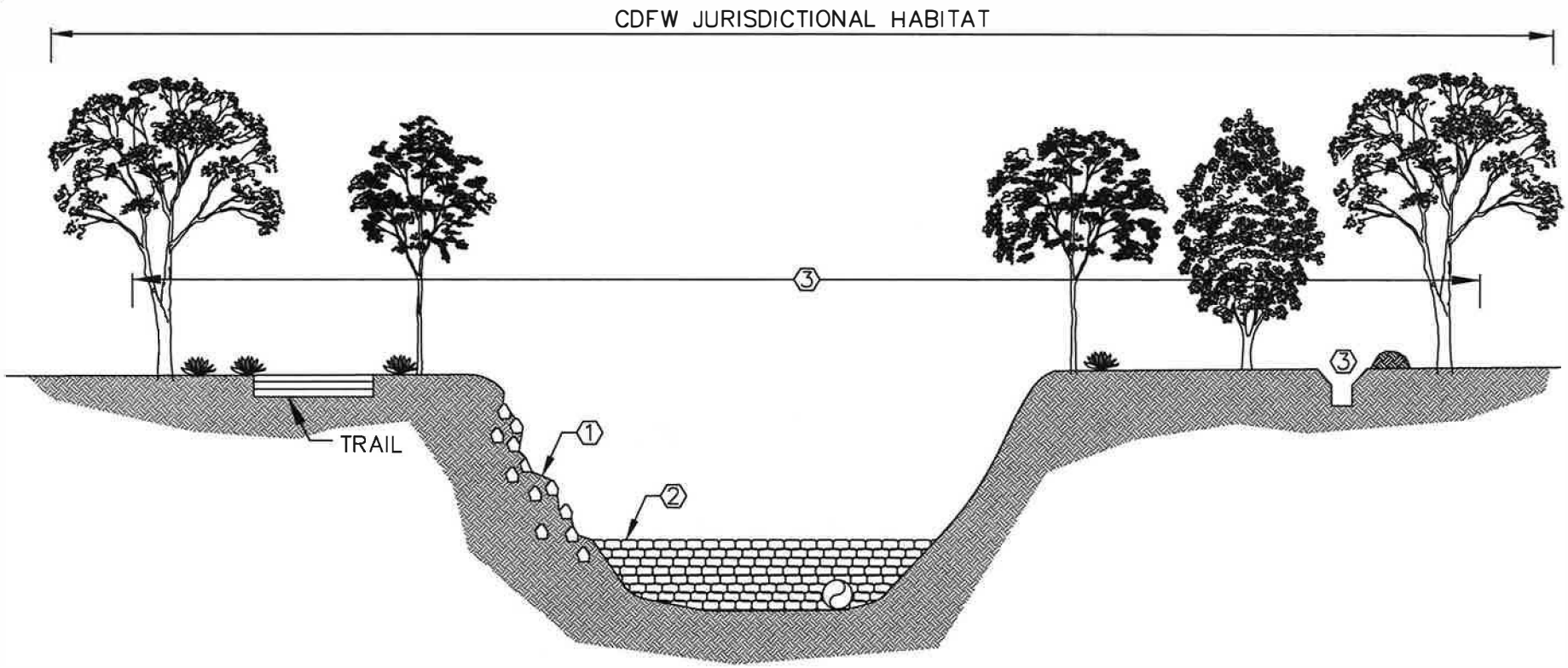
TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

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 Roseville, Placer County, California

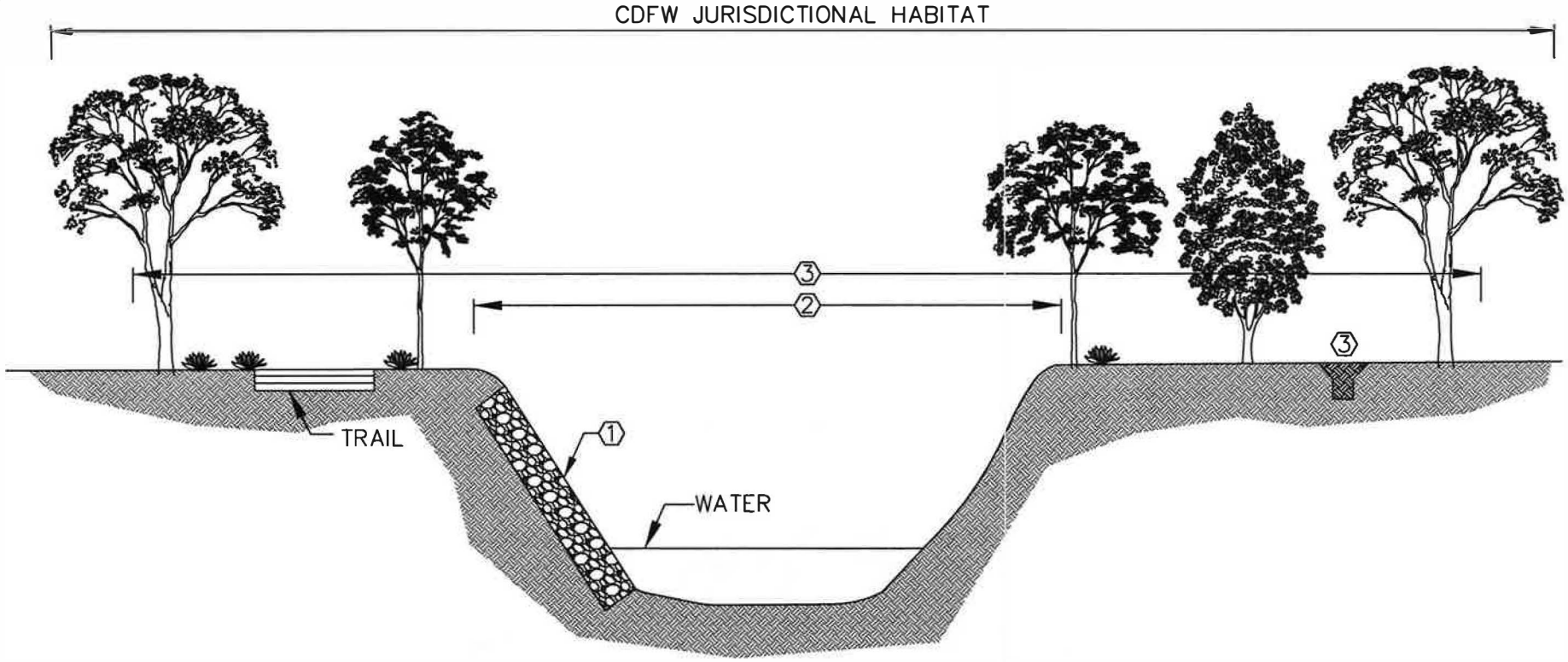


TYPICAL CHANNEL AND WATERWAY SECTION
NO SCALE

AREAS IMPACTED BY ACTIVITY:

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

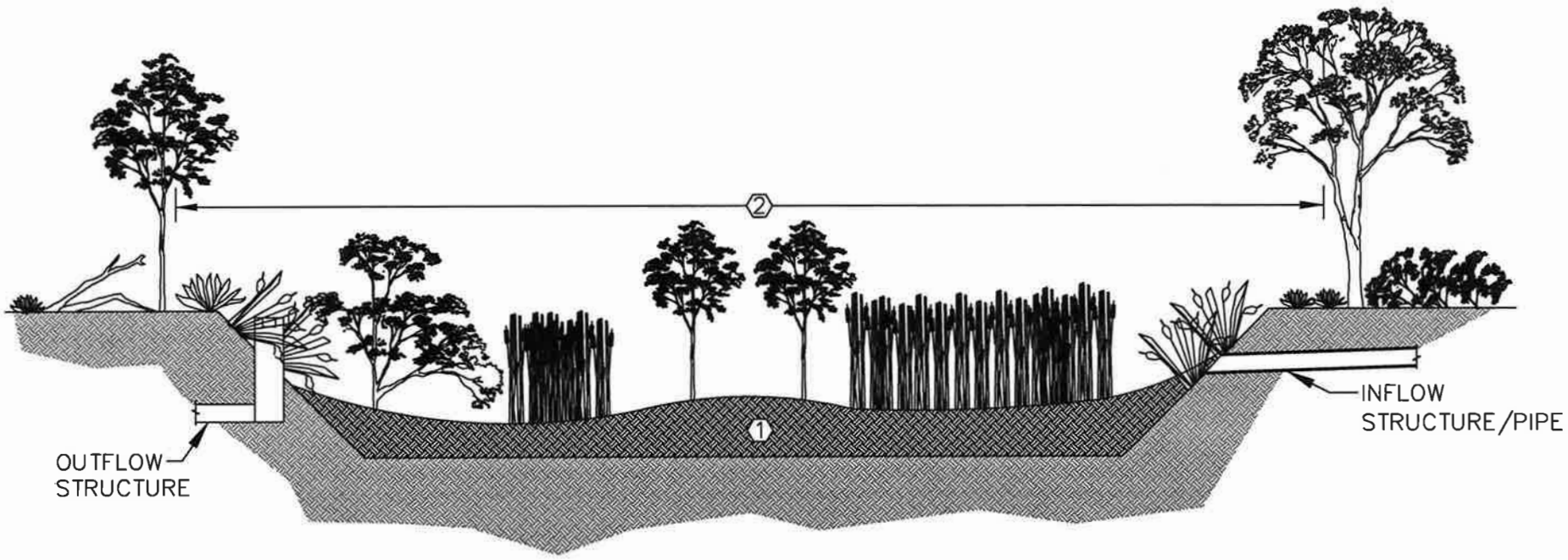
FIGURE 4 -5A
Typical Cross Sections
Pre-Repair of Previous Erosion Control Work, Water Diversion & Geotechnical Sampling
Routine Maintenance of Stream Channels and Drainage Facilities
City of Roseville, Placer County, California



AREAS IMPACTED BY ACTIVITY:

1. REPAIR OF PREVIOUS EROSION CONTROL WORK
2. TEMPORARY 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 Roseville, Placer County, California



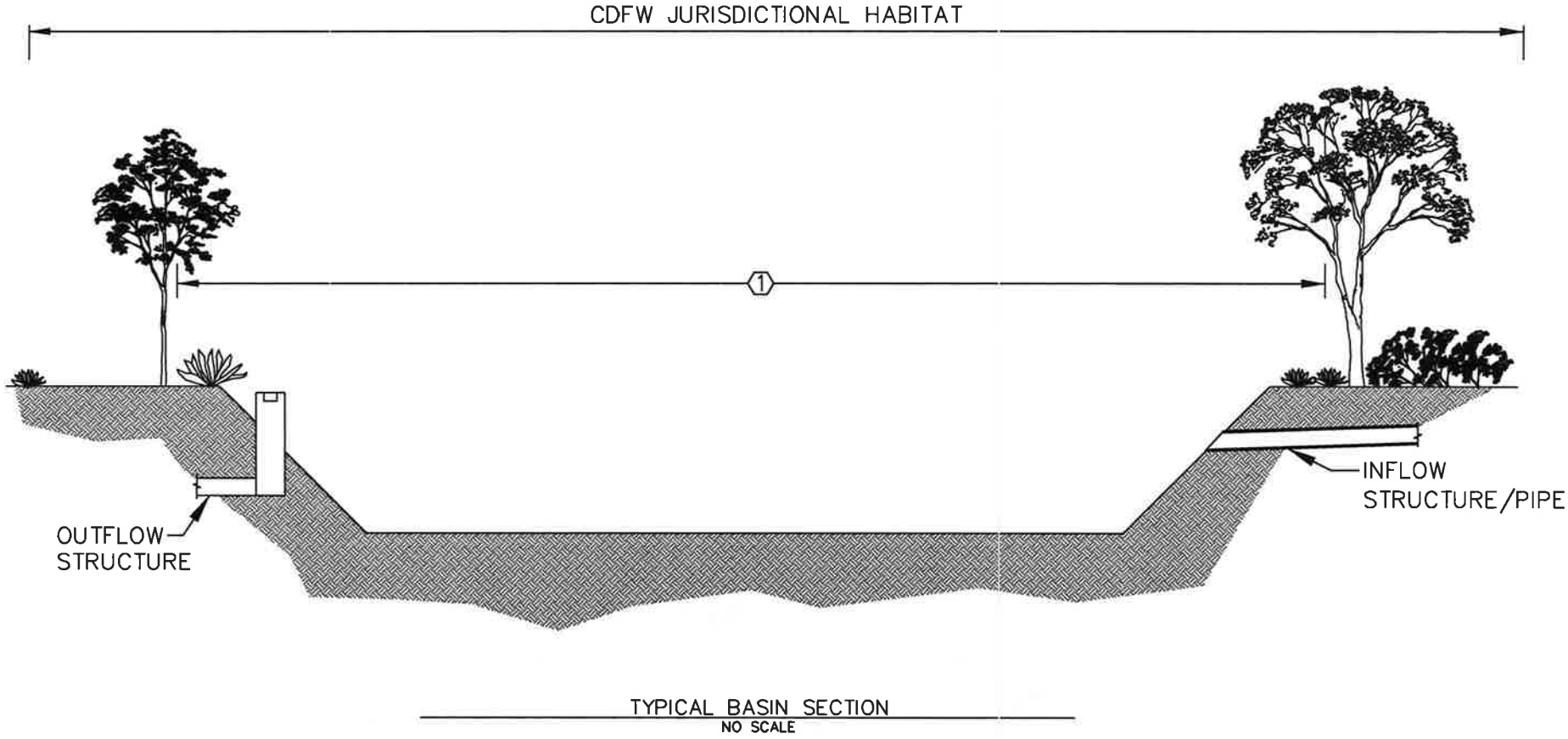
TYPICAL BASIN SECTION
NO SCALE

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 Roseville, Placer County, California



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 Roseville, Placer County, California

2.4 Background

The City's open space maintenance, stormwater drainage and water quality programs are administered by the City's Parks, Recreation and Libraries Open Space Division, Public Works Streets Division, and Environmental Utilities Departments Storm Water Division respectively. Combined, these departments contribute to engineering, regulatory compliance, and operations and maintenance of the City's storm water conveyance system. The City is approximately 43.3 square miles and relies on approximately 73.6 miles of creek, unlined open channels, and concrete-lined channels to convey stormwater. They City also manages many detention/water quality basins.

In 1995, the City of Roseville was flooded by an approximate 100-year flood event. The flood damaged over 300 homes and caused several million dollars in property damage. The City responded to the flood event by improving flood infrastructure and developing flood models that assume a maximum channel roughness coefficient. To maintain design channel roughness, the City annually maintains all stormwater conveyance channels by removing obstructions and controlling primarily non-native understory vegetation.

The City's routine maintenance activities are currently covered under a Streambed Alteration Agreement between CDFW and the City of Roseville for Routine Maintenance of Stream Channels and Drainage Facilities within the City of Roseville (Existing RMA) (April 27, 2010). The Existing RMA was determined by CDFW to be exempt from CEQA review and was approved with a five year term through April 27, 2015. The Existing RMA was subsequently extended to January 15, 2017 (by CDFW letter dated September 22, 2015) to allow time for RMA renewal and comprehensive CEQA review. 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 prescribed by the City's Municipal Separate Storm Sewer System (MS4) NPDES Permit would also apply to proposed maintenance activities as would other applicable NPDES permits such as the Construction General Permit. The City is the project proponent for the project and is the lead agency under the CEQA. The projects are locally funded.

Project Purpose and Need

The primary project purpose is to maintain constructed drainage and flood protection infrastructure and the design capacity of creeks, drainage channels and other physical structures within the City limits in order to protect the City's investments and prevent the loss of life and property due to flooding. To accomplish this, the City proposes to acquire an RMA with CDFW to authorize the City to perform routine maintenance activities, qualifying capital improvement projects, and vegetation restoration activities within areas of CDFW jurisdiction.

2.5 City of Roseville Open Space Preserve Overarching Management Plan and Related USFWS Biological Opinion

As an outgrowth of an MOU between the City and USFWS (August 2000), the City in cooperation with the USFWS and USACE prepared the City of Roseville Open Space Preserve Overarching Management Plan (Overarching Plan). The Overarching Plan replaced various existing operation and management plans for open space preserves established by Section 404 Permit located throughout the City. The Overarching Plan consolidated preserve management under a single plan allowing for more efficient management and reporting across preserves.

The Overarching Plan includes areas also subject to CDFW jurisdiction and outlines prohibited activities and certain allowed maintenance tasks. Allowed maintenance tasks are consistent with but generally more restrictive than the proposed routine maintenance tasks described herein.

Overarching Plan approved maintenance tasks were subject to Section 7 Consultation and received federal incidental take authorization via a USFWS Biological Opinion dated May 3, 2011 (Appendix E). The USFWS Biological Opinion authorizes the City to conduct maintenance and habitat restoration activities that are likely to adversely affect valley elderberry long horn beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Covered activities include, but are not limited to, working on bike trails and maintenance roads

(including use of herbicides), detention and retention structures, water quality features, outfalls and inlets, bridges and culverts, water lines, stream gauges, and cell phone towers. Refer to Appendix E for further details on Biological Opinion covered activities, impact limits, and related conservation measures.

2.6 City Of Roseville Mitigating Ordinances, Guidelines, and Standards

Uniformly Applied Policies and Standards

For projects that are consistent with the development densities established by existing zoning, community plan, or general plan policies for which an EIR was certified, CEQA Guidelines section 15183 allows a lead agency to rely on previously-adopted development policies or standards as mitigation for the environmental effects, when the standards have been adopted by the City, with findings based on substantial evidence that the policies or standards will substantially mitigate environmental effects, unless substantial new information shows otherwise (CEQA Guidelines §1583(f)). The City of Roseville adopted CEQA Implementing Procedures (Implementing Procedures) which are consistent with the CEQA Guidelines. The current version of the Implementing Procedures were adopted in April 2008, along with Findings of Fact, as Resolution 08-172. The regulations and ordinances listed below were found to provide uniform mitigating policies and standards, and are applicable to development projects.

City of Roseville CEQA Implementing Procedures

- City of Roseville General Plan Policies
- City of Roseville Zoning Ordinance (RMC Title 19)
- Noise Regulation (RMC Ch.9.24)
- Flood Damage Prevention Ordinance (RMC Ch.9.80)
- Traffic Mitigation Fee (RMC Ch.4.44)
- Highway 65 Joint Powers Authority Improvement Fee (Resolution 2008-02)
- South Placer Regional Transportation Authority Transportation and Air Quality Mitigation Fee (Resolution 09-05)
- Drainage Fees (Dry Creek [RMC Ch.4.49] and Pleasant Grove Creek [RMC Ch.4.48])
- City of Roseville Improvement Standards (Resolution 02-37)
- City of Roseville Construction Standards (Resolution 01-208)
- City of Roseville Urban Forest Master Plan
- Tree Preservation Ordinance (RMC Ch.19.66)
- Subdivision Ordinance (RMC Title 18)
- Community Design Guidelines (Resolution 95-347)

Specific Plans and associated Design Guidelines

- Development Guidelines Del Webb Specific Plan (Resolution 96-330)
- Landscape Design Guidelines for North Central Roseville Specific Plan (Resolution 90-170)
- North Roseville Specific Plan and Design Guidelines (Resolution 00-432)
- Northeast Roseville Specific Plan (Olympus Pointe) Signage Guidelines (Resolution 89-42)
- North Roseville Area Design Guidelines (Resolution 92-226)
- Northeast Roseville Specific Plan Landscape Design Guidelines (Resolution 87-31)
- Southeast Roseville Specific Plan Landscape Design Guidelines (Resolution 88-51)

- Stoneridge Specific Plan and Design Guidelines (Resolution 98-53)
- Highland Reserve North Specific Plan and Design Guidelines (Resolution 97-128)
- West Roseville Specific Plan and Design Guidelines (Resolution 04-40)
- Sierra Vista Specific Plan and Design Guidelines (Resolution 10-215)
- Creekview Specific Plan and Design Guidelines (Resolution 12-318)

The City's Mitigating Ordinances, Guidelines, and Standards are referenced, where applicable, in the Environmental Checklist, and will be implemented as part of the Proposed Project to reduce potential impacts to a Less Than Significant Level.

2.7 Avoidance and Minimization Measures

In addition to the mitigation measures discussed in chapter 3, the following Avoidance and Minimization Measures will be implemented:

Air Quality

- Maintenance activities will follow the Placer County Air Pollution Control District rules and implement all appropriate air quality Best Management Practices.

Biological Resources

- If wildlife is encountered during maintenance activities, work will stop within the area and the animal will be allowed to leave the project area un-harassed.
- Plastic mono-filament netting (erosion control matting) or similar material that could trap wildlife will not be used. Acceptable substitutes include jute, coconut coir matting or tackified hydroseeding compounds.
- Soil disturbance within the bed, bank and channel of creeks will be limited to the minimum area necessary to complete maintenance activities. Existing vegetation will be protected where feasible and disturbed/exposed soils will be stabilized to prevent erosion and sedimentation
- The City will limit wetland and riparian vegetation removal to the greatest extent feasible to complete maintenance activities. Vegetation thinning/clearing to ensure hydraulic capacity would be limited to only that necessary to ensure consistency with the City's flood model (i.e., roughness coefficient).
- 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 the listed 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.
- Prior to arrival at the project site, the City must clean all equipment that may contain invasive plants and/or seeds to reduce the spreading of noxious weeds.
- When feasible, stumps of removed trees will be left intact to allow the tree to stump sprout and quickly regenerate the habitat.
- Where ground disturbance occurs, the surface of temporarily impacted riparian and wetland habitat will be regraded and restored to pre-maintenance contours (if applicable). Site restoration with container plants or a native seed mix may be required if vegetation removal included soil grubbing to quickly regenerate mature vegetation.
- The City will comply with mitigation requirements of the City of Roseville's Native Oak Tree Preservation Ordinance (Roseville Municipal Code Chapter 19.66):

- The City would implement provisions of the Native Oak Tree Ordinance to compensate for the removal of protected oaks by planting new trees or by payment of an in-lieu fee pursuant to Resolution #03-546.
- The amount of encroachment within the protected zone and tree removal of City protected oaks will be minimized to the greatest extent practicable.

Noise

- When feasible, project activities will occur between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday. All construction equipment shall be fitted with factory installed muffling devices and all construction equipment shall be maintained in good working order.

2.8 Required Permits and Approvals

The following permits and/or approvals may apply to the Proposed Project depending on the details of the individual VRF:

- For routine maintenance activities within the United States Army Corps of Engineers (USACE) jurisdiction, a Section 404, Nationwide Permit 3 is authorized (contingent on meeting permit conditions). If a project exceeds Nationwide Permit 3 permit conditions, the City may need to notify USACE;

- 1602 SAA: Routine Maintenance Agreement — CDFW;

- The City's Phase II MS4 NPDES permit — Central Valley Regional Water Quality Control Board. If a project is required to notify USACE, a Section 401 Clean Water Certification may be required;

- Adoption of the Mitigated Negative Declaration for the Proposed Project and approval of the Mitigation Monitoring and Reporting Plan (**Appendix A)** Roseville City Council; and

- Project Approval – Roseville City Council.

It should be noted that depending on project design and location, it is possible that the following maintenance tasks could require a Section 404 Permit other than a NWP 3 and potentially a corresponding Section 401 Water Quality Certification:

- Channel Alignment Maintenance
- Removal or Replacement of Facilities
- Water Diversions
- Minor erosion control work

3.0 INITIAL STUDY CHECKLIST

CEQA Guidelines recommend that lead agencies use an Initial Study checklist to determine the potential impacts of the Proposed Project on the physical environment. The checklist provides a list of questions concerning a comprehensive array of environmental issue areas potentially affected by the Proposed Project. This section of the Initial Study incorporates a portion of the Appendix "G" environmental checklist form, contained in CEQA Guidelines (revised 2014). The City has modified the Appendix "G" environmental checklist form to include a reference to CEQA Section 21083 and CEQA Guidelines Section 15183 in order to identify impact areas that do not require further analysis than that which was provided in the applicable Specific Plan and/or General Plan EIR. Impact questions and responses are included in both tabular and narrative formats for each of the 17 environmental topic areas. There are four possible answers to the environmental impacts checklist questions on the following pages. Each possible answer is explained herein:

1) A "**Potentially Significant Impact**" is appropriate if there is enough relevant information and reasonable inferences from that information that a fair argument can be made to support a conclusion that a substantial or potentially substantial adverse change may occur to any of the physical conditions within the area affected by the Proposed Project. When one or more "Potentially Significant Impact" entries are made, an EIR is required.

2) A "**Less Than Significant With Mitigation Incorporated**" answer is appropriate when the Applicant has agreed to incorporate a mitigation measure to reduce an impact from "Potentially Significant" to "Less Than Significant." For example, impacts to flood waters could be reduced from a "Potentially Significant Impact" to a "Less Than Significant Impact" by relocating a building to an area outside the floodway. The lead agency must describe the mitigation measures, and briefly explain how the measures would reduce the impact to a "Less Than Significant Level."

3) A "**Less Than Significant Impact**" is appropriate if there is evidence that one or more environmental impacts may occur, but the impacts are determined to be less than significant or the application of development policies and standards to the project will reduce the impact(s) to a "Less Than Significant Level." For example, the application of the City's Improvement Standards reduces potential erosion impacts to a "Less Than Significant Impact."

4) A "**No Impact**" answer is appropriate where it can be clearly seen that the impact at hand does not have the potential to adversely affect the environment. For example, a project in the center of an urbanized area will clearly not have an adverse effect on agricultural resources or operations.

All answers must take into account the whole action involved, including off-site as well as on-site, cumulative, as well as project-level, indirect as well as direct, and construction as well as operational impacts, except as provided for under CEQA Guidelines Section 15183 and CEQA Section 21083.3.

A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources cited in the parentheses following each response. A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards.

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "less than significant with mitigation incorporated" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry	☐	Air Quality
☒	Biological Resources	☒	Cultural Resources	☐	Geology/ Soils
☐	Greenhouse Gas Emissions	☐	Hazards and 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

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 Proposed Project have been made by or agreed to by the applicant. 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.

9-23-16
Date

Mark Morse, Environmental Coordinator

City of Roseville
Organization

3.1 Aesthetics

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

Discussion of Checklist Answers:

a,b. **No Impact**. The City has not designated any specific scenic vistas to be protected in the City of Roseville, and there is not a state-designated scenic highway in the Proposed Project vicinity (Caltrans 2011). There would be ***No Impact***. No mitigation is required.

c. **Less Than Significant Impact**. Implementation of routine channel maintenance activities may result in the removal of trees and aquatic vegetation. However, 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 it avoids removal of trees greater than 4 inches DBH to the greatest extent feasible. Removal of mature trees will be infrequent and only when needed to ensure safe conveyance of flood waters. Vegetation control will be targeted at understory and non-native species. In most situations, vegetation control will maintain existing baseline conditions. Native oak trees equal or greater than 6 inches DBH in the City that require removal or encroachment greater than 20% of the protected zone, defined as the tree's dripline plus one foot, are protected by City's Tree Preservation Ordinance (Roseville Municipal Code Chapter 19.66). Any impacts to protected native oaks would be mitigated consistent with the City of Roseville Tree Ordinance by planting new trees or by payment of an in-lieu fee pursuant to Resolution #03-546 (City 2016, City of Roseville 2003) (It should be noted the City doesn't issue tree permits for City activities but does otherwise comply with ordinance requirements). However, as a practice, the City will 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. In the context of the existing tree canopy, the proposed removals would not substantially degrade the existing visual quality of the site and related impacts would therefore be considered ***Less Than Significant***. No mitigation is required.

d. **No Impact**. Routine maintenance activities would occur during daylight hours. No night work is anticipated to take place during construction of routine maintenance activities. Further, the Proposed Project would not include any project components that could increase glare in the Proposed Project area. The Proposed Project would not create a new significant source of light or glare that would adversely affect nighttime views in the area. There would be ***No Impact***. No mitigation is required.

3.2 Agriculture and Forest Resources

	Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☒

Discussion of Checklist Answers:

a. **No Impact.** With the exception of the City owned Al Johnson Wildlife Area Property which is leased to farmers for rice and dry farming operations, there are no agricultural areas within City limits. This land would not be converted as a result of this RMA. According to the 2025 General Plan Land Use Element, only areas designated as Urban Reserve provide agricultural land usage. There are only two narrow areas within the City that are designated as Urban Reserve (City of Roseville 2010a). In addition, while the City contains Prime Farmland, Unique Farmland, "Grazing Land" and "Farmland of Local Importance" as disclosed by the State Farmland Mapping and Monitoring Program, the area is predominantly mapped as "Urban and Built-up Land" (CDC 2014). No Williamson Act Land, forest lands, or timberlands occur within the City. Further, no Farmland occurs at stream channels or drainage facilities being maintained as part of this Proposed Project. The Routine maintenance activities would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, there would be **No Impact** related to agricultural resources. No mitigation is required.

b. **No Impact.** No Williamson Act Land occurs within the City and routine maintenance activities would not conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, there would be ***No Impact*** related to agricultural resources. No mitigation is required.

c. **No Impact.** No forest lands or timberlands occur within the City; therefore, routine maintenance activities would not cause conflicts within existing zoning, or require rezoning of forest land or timberland. There would be ***No Impact*** related to timber resources. No mitigation is required.

d. **No Impact.** No forest lands occur within the City; therefore, routine maintenance activities would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, there would be ***No Impact*** related to forest resources. No mitigation is required.

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. Therefore, there would be ***No Impact*** related to agricultural resources. No mitigation is required.

3.3 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Setting

Discussion of Checklist Answers:

a. No Impact. Climate in the Roseville 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 (NOx) and Reactive Organic Gasses (ROG), which result in Ozone (O_3) formation. High concentrations of O_3 are reached in the Roseville 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 within the southeastern edge of the Sacramento Valley Air Basin (SVAB) (CARB 2014). The Placer County Air Pollution Control District (Placer County APCD) is responsible for implementing emissions standards and other requirements of federal and state laws in the Proposed Project area. As required by the California Clean Air Act (CCAA), Placer County APCD has published various air quality planning documents as discussed below to address requirements to bring the Placer County APCD 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 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.

In order to work towards attainment for ozone and PM_{10}, 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 will make to correct the levels of air pollution and bring their areas back into attainment.

A conflict with, or obstruction of, implementation of an air quality plan could occur if a project generates greater emissions than what has been projected for the site in the emission inventories of the air quality plan. Emission inventories are developed based on projected increases in population, employment, regional vehicle miles traveled (VMT), and associated area sources within the region, which are based on regional projections that are, in turn, based on the General Plan Land Use and Zoning Designations for the region. As emissions related to the City's creek maintenance program are existing, continued implementation of Routine maintenance activities would not increase related baseline emissions, populations, employment, regional VMT or change land use or zoning. Routine maintenance will not conflict with or obstruct the implementation of the Placer County APCD Ozone Emergency Episode Plan and activities would follow applicable Placer County APCD rules (Placer County APCD 2015). Therefore, there would be ***No Impact*** related to implementation of the applicable air quality plan. No mitigation is required.

b. Less Than Significant Impact. 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 3: SVAB/Placer County Attainment Status

Pollutant	State of California Attainment Status
Ozone (O_3)	Nonattainment
Respirable Particulate Matter (PM_{10})	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment
Carbon Monoxide (CO)	Attainment
Nitrogen Dioxide NO_2)	Attainment
Lead (Pb)	Attainment
Sulfur Dioxide (SO_2)	Attainment
Sulfates (So_x)	Attainment
Hydrogen Sulfide (H_2S)	Unclassified
Visibility Reducing Particles	Unclassified

Source: (CARB 2016a)

The SVAB portion of Placer County is currently in nonattainment for state ozone and PM_{10} 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 Placer County include motor vehicles, other transportation sources, and stationary/area sources (industrial, manufacturing and commercial facilities) (Breathe California of Sacramento-Emigrant Trails 2007).

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.

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 minor land disturbance. However, the proposed maintenance activities represent ongoing operations and would be periodic in nature and are not anticipated to generate large amounts of dust or particulates. All routine maintenance activities would follow the Placer County APCD rules and would implement all appropriate air quality best BMPs, including minimizing equipment idling time and use of water or similar chemical palliative to control fugitive dust.

The Proposed Project would not exceed the applicable thresholds of significance for air pollutant emissions during construction or operation. The Proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, implementation of the Proposed Project would result in a ***Less Than Significant*** impact related to air quality. No mitigation is required.

c/d. **Less Than Significant Impact**. Emissions derived from routine maintenance activities are anticipated to be minor and are not anticipated to exceed the Placer County APCD'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 would also have less than a significant impact on exposing sensitive receptors to substantial pollutant concentrations. Therefore, the Proposed Project would result in a ***Less Than Significant Impact***. No mitigation is required.

e. **Less Than Significant Impact**. Routine maintenance activities will be temporary, minor projects located along creeks and drainage facilities using standard construction equipment. Any odors or toxic air contaminants generated by the Proposed 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 will not include industrial or intensive agriculture uses. In addition, routine maintenance activities would be short-term and are not anticipated to result in nuisance odors that would violate PCAPCD odor regulations. Therefore, the impact is considered to be ***Less Than Significant Impact***. No mitigation is required.

3.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling hydrological interruption, or other means?	☐	☒	☐	☐
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?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Discussion of Checklist Answers:

a. **Less Than Significant Impact With Mitigation Incorporated**. Biological resource analysis assumes implementation of applicable biological resource Avoidance and minimization measures discussed in Section 2.7. Where necessary, additional CEQA mitigation measures are included to ensure potential impacts are reduced to a less than signification level.

Based on a records search of the California Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS), and California Native Plant Society (CNPS) lists, 29 special-status species were found to have the potential to occur in the vicinity of the City (Appendix B: Biological Database Search Results). The following set of criteria has been used to determine each species potential for occurrence on the site:

High: Species known to occur within or near the City (based on numerous recent CNDDB, CNPS, or ebird.org records within city boundaries) and there is suitable habitat for the species within the City.

Moderate: Species known to occur within or near the City (based on few recent CNDDB occurrences within the City or within 5 miles of City boundaries) and there is suitable habitat for the species within the City.

Low: Species known to occur in the vicinity of the City (based on no CNDDB occurrences of the species within the City and very few occurrences of the species within 10 miles of the City –or– limited occurrences of the species within 10 miles and, the City appears to be on the periphery of the known distribution of the species) and there is suitable habitat for the species

Absent: Species is not known or expected to occur within the City. This may be based on a lack of recent occurrences within 10 miles of the City, lack of suitable habitat, the City being located outside of ecological subsections associated with the species, or the City being located outside of the known geographic range of the species.

A complete list of species found to have the potential to occur in the vicinity of the City, as well as rational for each species occurrence potential, can be found in Appendix C: Special Status Species Potential Table. Only those special-status plants and wildlife species that have a high, moderate, or low potential of occurring within the City will be discussed in further detail below.

Special-Status Plants

Based on literature review it has been determined that one species dwarf downingia (*Downingia pusilla*) has a high potential of occurring within the City, two species Boggs Lake hedge-hyssop (*Gratiola heterosepala*) and Sanford's arrowhead (*Sagittaria sanfordii*) have a moderate potential of occurring within the City, and one species Legenere (*Legenere limosa*) has a low potential of occurring within the City.

Dwarf Downingia

Dwarf downingia is an annual herb found in vernal pools and seasonally mesic locations within valley and foothill grasslands. The species is found in the Sacramento and San Juaquin valleys as well Sonoma and Napa Counties from 3 to 1,460 feet above sea level. The species generally blooms between March and May (CNPS 2016). The species is not listed as threatened or endangered under either the Federal or California Endangered Species Act but it has been designated as a rank 2B.2 rare plant by CNPS.

The species is considered to have a high potential of occurring within the City. Potentially suitable vernal pool and mesic grassland habitat for the species is present in undeveloped areas of the City,

particularly the less developed western half. In addition, during literature review, multiple recent occurrences of the species were found on CNDDB within City boundaries.

Although the species has a high potential of occurring within the City, routine maintenance activities discussed in this document (including potential staging areas and access routes) will not take place within vernal pools or mesic spots within grasslands that remain inundated for a period of 2 months or longer and no impacts to the species are anticipated. To completely avoid potential maintenance related impacts to the species, Mitigation Measures **BIO-1**, **BIO-2,** and **BIO-3** will be implemented.

Boggs Lake Hedge-hyssop

Boggs Lake hedge-hyssop is an annual herb found on clay soils in areas with shallow standing water. Known habitats include marshes, swamps, lake margins, and vernal pools from 30 to 7,790 feet above sea level. The species generally blooms between April and August (CNPS 2016). The species is listed as endangered under the California Endangered Species Act and has been designated as a rank 1B.2 rare plant by CNPS.

The species is considered to have a moderate potential of occurring within the City. Clay soils are present throughout the City (NRCS 2016) and potentially suitable vernal pool, marsh and pond margin habitat for the species is present within the City. In addition, there is one recently documented CNDDB occurrences of the species within City boundaries.

Routine maintenance work discussed in Chapter 2 may occur in habitats known to be suitable for Boggs Lake hedge-hyssop. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1**, **BIO-2**, and **BIO-3** will be implemented.

Sanford's Arrowhead

Sanford's arrowhead is a perennial rhizomatous herb found in freshwater marshes, swamps, ponds, and ditches from 0 to 2,150 feet above sea level. The species generally blooms May through October (CNPS 2016). The species is not listed as threatened or endangered under either the Federal or California Endangered Species Act but it has been designated as a rank 1B.2 rare plant by the California Native Plant Society.

Sandford's arrowhead is considered to have a moderate potential of occurring within the City. Potentially suitable stream channel and freshwater marsh habitat is present within the City. There are no documented CNDDB occurrences of the species within the City boundaries but there are several occurrences of the species within 5 miles of City boundaries.

Routine maintenance work discussed in Chapter 2 may occur in habitats known to be suitable for Sanford's arrowhead. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-3** will be implemented.

Legenere

Legenere is an annual herb found in mesic areas, vernal pools, and pond margins from 1 to 2,900 feet above sea level. Flowers May – June (CNPS 2016). The species is not listed as threatened or endangered under either the Federal or California Endangered Species Act but it has been designated as a rank 1B.1 rare plant by CNPS.

Legenere is considered to have a low potential of occurring within City boundaries. There is potentially suitable vernal pool and pond habitat for the species within the City but there are no occurrences of the species within 5 miles of the City.

Routine maintenance work discussed in Chapter 2 may occur in habitats known to be suitable for legenere. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-3** will be implemented.

Special-Status Wildlife

Based on literature review it has been determined that three species including Western spadefoot (*Spea hammondii*), steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus*), and vernal pool fairy shrimp (*Branchinecta lynchi*) have a high potential of occurring within the City; five species including Swainson's hawk (*Buteo swainsoni*), Tricolored blackbird (*Agelaius tricolor*), White-tailed kite (*Elanus leucurus*), vernal pool tadpole shrimp (*Lepidurus packardi*), and Western pond turtle (*Emys marmorata*) have a moderate potential of occurring within the City; and five species including burrowing owl (*Athene cunicularia*), grasshopper sparrow (*Ammodramus savannarum*), purple martin (*Progne subis*), Conservancy fairy shrimp (*Branchinecta conservatio*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) have a low potential of occurring within the City.

Western Spadefoot

The western spadefoot is not federally or state listed but is considered a species of special concern by CDFW. In California, the species is distributed throughout the Central Valley; along the Coast Ranges in Monterey, San Luis Obispo, and Santa Barbara counties; and in Southern California south of the Transverse Mountains and west of the Peninsular Mountains. Western spadefoot inhabits woodlands and grasslands and is almost entirely terrestrial, only entering water to breed in vernal pools January through May after which the female deposits eggs on emergent vegetation before returning to subterranean burrows. Diet consists of a variety of insects and earthworms. Western spadefoot estivate through the dry season by using their hind legs to burrow underground and remain dormant until winter rains soften soils and refill vernal pools.

Western spadefoot is considered to have a high potential of occurring within the City. Potential vernal pool breeding habitat and adjacent grassland dispersal habitat is present within the City, particularly within the less developed western half of the City. In addition, numerous recently documented occurrences of the species were found within City boundaries on CNDDB.

Routine maintenance work discussed in Chapter 2 will not occur in vernal pool breeding habitat for Western spadefoot but may occur in adjacent grassland dispersal habitat. To avoid and minimize potential maintenance related impacts to the species dispersal habitat, **BIO-1** and biological resource avoidance and minimization measures discussed in Section 2.7 will be implemented.

Steelhead

Steelhead has been listed as threatened under the Federal Endangered Species Act. Steelhead are anadromous fish that spend part of their life cycle in freshwater and part in salt water. The species was once abundant in California coastal and central valley drainages however; population numbers have declined significantly (NMFS 2009). This species spawns in small, freshwater streams where the young remain from one to several years before migrating to the ocean to feed and grow. Adults return to their natal streams to spawn and complete their life cycle (NMFS 2013). Juvenile steelhead typically migrate to marine waters after spending two or three years in cool, clear, fast flowing permanent streams and rivers where they reside prior to returning to their natal stream to spawn as four or five year olds. Unlike Pacific salmon, steelhead are capable of spawning more than once before they die (NMFS 2009, NMFS 2013).

Within City boundaries, Dry Creek, Secret Ravine, and Miners Ravine provide potentially suitable habitat for steelhead and the species has been documented in these watercourses. In addition, these watercourses have been designated as steelhead critical habitat by USFWS. Steelhead is considered to have a high potential of occurring within these watercourses and is considered absent from other watercourses within the City.

Routine maintenance activities discussed in Chapter 2 may occur within Dry Creek, Secret Ravine, and Miner's Ravine. To avoid and minimize potential impacts to steelhead, Mitigation Measures **BIO-1** and **BIO-4** will be implemented.

Vernal Pool Fairy Shrimp

In California, vernal pool fairy shrimp inhabit portions of Tehama County, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms.

Vernal pool fairy shrimp is considered to have a high potential of occurring within the City. Potentially suitable vernal pool habitat for the species is present within the City, particularly the less developed western portion of the City. In addition, numerous recently documented occurrences of the species were found within City boundaries on CNDDB.

Although the species has a high potential of occurring within the City, routine maintenance activities discussed in this document will not occur within vernal pools and no impact to the species is anticipated. To completely avoid potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-2** will be implemented.

Swainson's Hawk

Swainson's hawk is not listed as endangered or threatened under FESA but is listed as threatened under CESA. Swainson's hawk migrates annually from wintering areas in South America to breeding locations in northwestern Canada, the western U.S., and Mexico. In California, Swainson's hawks nest throughout the Sacramento Valley in large trees in riparian habitats and in isolated trees in or adjacent to agricultural fields. The breeding season extends from late March through late August, with peak activity from late May through July (England et al. 1997). In the Sacramento Valley, Swainson's hawks forage in large, open agricultural habitats, including alfalfa and hay fields (CDFG 1994). The breeding population in California has declined by an estimated 91% since 1900; this decline is attributed to the loss of riparian nesting habitats and the conversion of native grassland and woodland habitats to agriculture and urban development (CDFG 1994).

Potentially suitable riparian forest roosting and nesting habitat is present along all major waterways discussed in Chapter 2. In addition, potentially suitable grassland foraging habitat for Swainson's hawk is present in portions of the City that have not yet been developed, particularly the western portion of the City. There is 1 recent occurrence of the species within City boundaries and multiple occurrences within 5 miles. The species is considered to have a moderate potential of occurring within the City based on presence of potentially suitable nesting and foraging habitat and a recent occurrence within City boundaries.

Routine maintenance work discussed in Chapter 2 may occur in habitats known to be suitable for Swainson's hawk. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-5** will be implemented.

Tricolored Blackbird

The tricolored blackbird was emergency listed as state endangered in December 2014 but that emergency listing has since expired. The listing status of Tricolored blackbird is currently under review. This species typically nests in freshwater marsh or other areas with dense, emergent vegetation such as dense cattails or tules, thickets of blackberry and willow. However, when preferred nesting is not available the species has been known to nest in grain (triticale), fiddleneck, thistles etc. (University of California Davis 2016, Kyle 2011). Most tricolored blackbirds forage within 3 miles of their colony sites and require some source of water in proximity to their colony location. Preferred foraging habitats include crops such as rice, alfalfa, irrigated pastures, and ripening or cut grain fields, as well as annual grasslands, cattle feedlots, and dairies. The species may also forage in remnant native habitats, including wet and dry vernal pools and other seasonal wetlands, riparian scrub habitats, and open marsh borders (Shuford and Gardali 2008).

Potentially suitable large emergent wetland nesting habitat for the species is present along Pleasant Grove Creek, Antelope Creek, Secret Ravine, and Strap Ravine. Foraging habitat is present in undeveloped grasslands found in the western half of the City. There are no CNDDB occurrences of the species within City boundaries but there are numerous recent CNDDB occurrences of the species within 5 miles of the City. The species is considered to have a moderate potential of occurring within the City based on presence of potentially suitable habitat and regional occurrences of the species.

Routine maintenance work described in Chapter 2 may occur in potentially suitable emergent vegetation nesting habitat. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-5** will be implemented.

White-tailed Kite

White-tailed kite is a fully protected species under Fish and Game Code Section 3511. This level of protection dictates that no individuals of this species may be impacted in any way. The species has a restricted distribution in the United States, occurring only in California and western Oregon and along the Texas coast (American Ornithologists' Union 1983). The species is fairly common in California's Central Valley margins within scattered oaks and river bottomlands. White-tailed kites nest in riparian and oak woodlands and forage in nearby grasslands, pastures, agricultural fields, and wetlands. They use nearby treetops for perching and nesting sites. Voles and mice are common prey species.

Potentially suitable riparian forest roosting and nesting habitat is present along all major waterways discussed in Chapter 2. In addition, potentially suitable grassland foraging habitat for white-tailed kite is present in portions of the City that have not yet been developed, particularly the western portion of the City. There is one CNDDB occurrence of the species within City boundaries as well as scattered occurrences of the species within 5 miles of the City. The species is considered to have a moderate potential of occurring within the City based on presence of potentially suitable habitat and recent CNDDB occurrences of the species.

Routine maintenance work discussed in Chapter 2 may occur in habitats known to be suitable for white-tailed kite. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-5** will be implemented.

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp is listed as endangered under FESA. The species inhabits vernal pools and grassy swales that are inundated for long periods of time, within unplowed grasslands. The species ranges from the Sacramento and San Joaquin Valleys, the Central Coast of California, and the Sierra Nevada Foothills. Individuals require habitat to stay inundated for a minimum of 2 months (USFWS 2007a).

Potentially suitable vernal pool habitat for the species is present within City boundaries, particularly in the less developed western half of the City. One historic CNDDB occurrence of the species was found within City boundaries and there are several occurrences of the species within 10 miles of the City (CNDDB 2016). Vernal pool tadpole shrimp is considered to have a moderate potential of occurring within with City based on presence of potentially suitable habitat and historic occurrences of the species within City limits.

Although the species has a moderate potential of occurring within the City, routine maintenance activities discussed in this document will not occur within vernal pools or inundated swales within grasslands. To completely avoid potential maintenance related impacts to the species, Mitigation Measure **BIO-1** and **BIO-2** will be implemented.

Western Pond Turtle

The western pond turtle is not a State or Federally listed species, but is a CDFW Species of Special Concern. The western pond turtle is a fully aquatic turtle, inhabiting ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. The species requires suitable basking sites such as

logs, rocks and exposed banks and associated upland habitat consisting of sandy banks or grassy open fields for reproduction. The species is omnivorous, consuming aquatic wildlife and vegetation for dietary requirements. The western pond turtle is known to hibernate underwater beneath a muddy bottom in colder climates, and reproduce from March to August (Zeiner 1990).

Potentially suitable aquatic habitat for western pond turtle habitat is present within the watercourses discussed in Chapter 2. There are no CNDDB occurrences of the species within the City but there are occurrences of the species within 5 miles of City boundaries along the American River. The species is considered to have a moderate potential of occurring within the City based on presence of potentially suitable habitat and regional occurrences of the species.

Routine maintenance work discussed in Chapter 2 may occur in habitats known to be suitable for western pond turtle. To avoid and minimize potential maintenance related impacts to the species, **BIO-1** and biological resource avoidance and minimization measures discussed in Section 2.7 will be implemented.

Burrowing Owl

The burrowing owl is not a state or federally listed species, but is a CDFW Species of Special Concern. The burrowing owl inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. The species requires friable soils for burrow construction and prefers areas on bare, well drained, level to sloping sites. Typically the species occupies old small mammal burrows, but has been known to utilize pipes, culverts and nest boxes when preferred burrows are absent. Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Breeding season takes place from February 1 to August 31 and wintering takes place from September 1st to January 31st and breeds from March to August (CDFW 2012). The burrowing owl is a year round species of California and occurs throughout the state up to 5,300 feet where appropriate habitat occurs (Zeiner 1988-1990, CNDDB 2015).

The City does contain potentially suitable grassland and shrub dominated habitat for the species in open space corridors throughout the City as well as in undeveloped grasslands found in the western portion of the City. There is one CNDDB occurrence of the species within the City boundaries from 1998 and numerous occurrences within 5 miles of the City. Most regional occurrences of the species are concentrated on undeveloped areas or low density residential areas southwest of the City. The species is considered to have a low potential of occurring within the City based on potentially suitable habitat and historic occurrences.

Routine maintenance work discussed in Chapter 2 will predominantly occur within forested riparian areas that do not provide suitable habitat for the species; however, maintenance and/or restoration work may be conducted in adjacent floodplain which may provide potentially suitable habitat for burrowing owl. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1**, **BIO-5**, and **BIO-6** will be implemented.

Grasshopper Sparrow

The grasshopper sparrow is not a state or federally listed species, but is a CDFW Species of Special Concern (CNDDB 2016). The species is an uncommon and local summer resident and breeder in foothills and lowlands, arriving in California from March to May and migrating south in August or September. The species occurs in dry, dense grasslands, especially grassland habitats with a diverse canopy structure (grasses and tall forbs and scattered shrubs for singing perches). Nests are built of grasses and forbs in a slight depression in the ground, hidden at the base of an overhanging clump of grasses or forbs.

The City does contain potentially suitable grassland habitat for the species, particularly in the less developed western half of the City. There are no occurrences of the species within the City limits but there are scattered occurrences within 10 miles of the City in areas with habitats similar to those

found in the western half of the City. The species is considered to have a low potential of occurring within the City based on presence of potentially suitable habitat and scattered regional occurrences.

Routine maintenance work discussed in chapter 2 will predominantly occur within forested riparian areas that do not provide suitable habitat for the species however; maintenance work and/or restoration may be conducted in adjacent floodplain grasslands which may provide potentially suitable habitat for grasshopper sparrow. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-5** will be implemented.

Purple Martin

The purple martin is listed by CDFW as a Special Species of Concern and is protected under the MBTA. This species is distributed throughout much of eastern North America and locally in the Pacific Coast at low to intermediate elevations (Shuford and Gardali 2008). The species is a summer migrant in California, arriving in March and departing late September, with the breeding season occurring from May to mid-August. Purple martins inhabit riparian habitats with tall, old, isolated trees for nesting, in proximity to a body of water with abundance of dragon flies, and other aerial insects (Zeiner 1988-1990). They also inhabit manmade structures like hollow box bridges in Sacramento, which house some of the species largest colonies in the western U.S. (Shuford and Gardali 2008).

Potentially suitable riparian habitat for the species is present within the City and there is one recent CNDDB occurrence of the species within the City Boundary. The species is considered to have a low potential of occurring within the City based on presence of riparian habitat and a single occurrence of the species within the City.

Routine maintenance work discussed in Chapter 2 may occur in riparian corridors with potentially suitable tall old tree habitat for purple martin. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-5** will be implemented.

Conservancy Fairy Shrimp

Conservancy fairy shrimp is listed as endangered under FESA. The species is restricted to the Central Valley and the Central Coast of California. The species inhabitants relatively large and turbid clay bottomed vernal pools within larger vernal pool complexes but may also be found in smaller pools. These larger pools are generally deeper and stay inundated longer than smaller vernal pools. The species is extremely rare and only known from approximately 10 populations (USFWS 2007b, USFWS 2012).

Potentially suitable vernal pool habitat for the species is present within City boundaries. A single CNDDB occurrence of the species was found within 10 miles of the City, approximately 6 miles north of the City. This occurrence is from the Mariner Ranch population, which is one of the 10 known populations of the species. The species is considered to have a low potential of occurring within the City based on presence of potentially suitable vernal pool habitat within the City and a known population of the species approximately 6 miles north of the City.

Although the species has a low potential of occurring within the City, routine maintenance activities discussed in this document will not occur within vernal pools and no impact to the species is anticipated. To completely avoid potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-2** will be implemented.

Valley Elderberry Longhorn Beetle

VELB is listed as threatened under FESA. Critical Habitat was designated by the USFWS on August 8, 1980 (USFWS 1980). Elderberry shrubs are obligate hosts for VELB larvae. Elderberry shrubs are often associated with cottonwood (Populus sp.), willow (Salix sp.), ash (Fraxinus sp.), oak (Quercus sp.), and walnut (Juglans sp.) – species common to the riparian forests and adjacent uplands in the Central Valley and foothills (USFWS 1980, USFWS 1999, Barr 1991). The VELB's range has been reduced and greatly fragmented due to a reduction of elderberry inhabited communities, most

especially riparian habitat loss. Habitat loss is derived from agricultural development, urbanization, levee maintenance and pesticide drift where aerial application or fogging of crops occurs near riparian habitats (Barr 1991). Adult VELB emerge from March through early June to feed on elderberry foliage and mate within the canopy. Females have a fairly limited dispersal capability and lay their eggs either singularly or in small clusters in living elderberry bark crevices or at the junction of stem/trunk or leaf petiole/stem usually within 164 feet of their emergence hole (USFWS 2014, Barr 1991). After eggs hatch, the first instar larvae burrow into the host elderberry stems to feed on pith for one to two years. As a larvae becomes ready to pupate, it chews outward from the center of the stem through the bark. After the larvae plugs the newly constructed emergent hole with shavings, it returns to the pupal chamber to metamorphose, and will emerge in mid-March through June as an adult (USFWS 2006). Elderberry stems with emergence holes indicates current and/or previous VELB presence. VELB utilize stems greater than 1 inch diameter and produce circular to oval emergent holes 7 to 10 millimeters in diameter with the majority occurring 4 feet or less above the ground (Barr 1991).

Elderberries, the host plant for the beetle, is present in riparian corridors throughout the City. There are no CNDDB documented occurrences of the species within the City, but there are multiple occurrences within 5 miles east of the City Boundary.

Routine maintenance work discussed in Chapter 2 may occur in riparian corridors and adjacent floodplains with elderberry shrubs, habitat for VELB. To avoid and minimize potential maintenance related impacts to the species, Mitigation Measures **BIO-1** and **BIO-7** will be implemented.

Migratory Birds and Other Birds of Prey

Migratory birds and other birds of prey, protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code, have the potential to nest in the trees within the riparian woodland and within the annual grassland. Migratory birds and other birds of prey have a high potential to nest within the City during the nesting season (February 1st – September 1st). Routine maintenance work discussed in Chapter 2 may affect suitable migratory bird or raptor habitat. To avoid and minimize potential maintenance related impacts to migratory birds and raptors, Mitigation Measures **BIO-1**, **BIO-5**, and **BIO-8** will be implemented.

Bats

Bats have a high potential to roost in bridges and other structures within the City. Routine maintenance work discussed in Chapter 2 may affect structures occupied by bats. To avoid and minimize potential maintenance related impacts to bats, Mitigation Measures **BIO-1** and **BIO-9** will be implemented.

Conclusion

Implementation of Mitigation Measures **BIO-1** through **BIO-9** would reduce impacts to special-status species to less than significant level. Therefore, impacts to special-status species are considered to be ***Less Than Significant Impact With Mitigation Incorporated***.

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 City would preferentially trim trees greater than 4 DBH and avoid removal of trees greater than 4 inches DBH to the greatest extent feasible. The City anticipates the removal of trees greater than 4 inches DBH to be rare and only when necessary to protect public safety. Maintenance work will be focused on maintaining baseline conditions consistent with the City's flood model and would be limited to actions necessary to maintain baseline, with a focus on removal of non-natives.

The project may require temporary and/or permanent impact to wetlands, riparian vegetation, or stream channels. A temporary impact is defined as an action that significantly modifies an area from baseline conditions and allows it to return to baseline after maintenance is complete. Depending on the size of the temporary impact, active site restoration in the form of seeding or planting may be

required. Examples of temporary impacts include the routine maintenance tasks of Vegetation Control in Channels, Debris or Obstruction Removal, and Silt, Sand and Sediment Removal as described in the project description. These tasks entail vegetation thinning, tree liming, trash and obstruction removals (including beaver dams and flood deposited woody and herbaceous vegetation) consistent with the City's flood model. Removal of a single tree for flood control or public health and safety reasons from an otherwise healthy riparian area would not constitute a significant permanent impact subject to mitigation. Compensatory mitigation for temporary impacts is not expected to be required and will be determined on a case by case basis through coordination with CDFW.

A permanent impact is defined as an action that significantly modifies an area from baseline conditions but does not allow it to return to baseline. Examples of a permanent impact include routine maintenance tasks such as Channel Alignment Maintenance, Removal or Replacement of Facilities, Repair of Previous Erosion Control Work, Minor Erosion Control Work, and maintenance of the City's Flood Alert System as described in the Project Description when maintenance results in permanent removal of existing vegetation and habitat. Such permanent impacts require compensatory mitigation to result in less than significant impacts.

Incorporation of biological resource avoidance and minimization measures included in Section 2.7 and mitigation measures **BIO-3** and **BIO-10** would lessen potential impacts to riparian vegetation or other sensitive natural communities such as emergent wetlands located within the City to a less than significant level. Exact compensatory mitigation for routine maintenance impacts to riparian and emergent wetland vegetation will be determined during the preparation of an HMMP as described in **BIO-10**. As discussed in Section 2.7, compensatory mitigation for removal of protected oaks will be consistent with the City of Roseville Tree Ordinance by planting new trees or by payment of an in-lieu fee pursuant to Resolution #03-546 (City 2016, City of Roseville 2003). Impacts to riparian habitat and other sensitive natural communities within the City would be ***Less Than Significant With Mitigation Incorporated***.

c. **Less Than Significant Impact With Mitigation Incorporated**. Federal and state jurisdictional wetlands within the City include in-channel freshwater emergent wetlands, swales, and vernal pools. Although removal of sediment from waters of the U.S. and state, including freshwater emergent wetlands, is a proposed activity, removal of sediment would be limited to what would improve the habitat quality and function of the features by returning flows to a more natural state. Implementation of biological resource avoidance and minimization measures discussed in Section 2.7 and mitigation measures **BIO-10** 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 will be limited to the requirements of a Section 404, Nationwide Permit 3 for maintenance (or alternative Nationwide Permit as determined by USACE). Iimpacts to federally protected wetlands are considered ***Less Than Significant With Mitigation Incorporated***, and no further mitigation is required.

d. **Less Than Significant Impact With Mitigation Incorporated.** The project will 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 due to maintenance activities within stream channels would be temporary, timed to fall outside the migration season for anadromous fish, and full functionality of all potential migratory corridors will be restored. Mitigation Measure **BIO-4** will be implemented to fully avoid impacts to migrating fish. Migratory birds would be protected by the implementation of **BIO-5** and **BIO-8**. Maintenance activities would be temporary and typically would occur during daylight hours. Terrestrial wildlife typically migrates at night and therefore would have opportunity to pass through areas temporarily subject to maintenance during nighttime hours without being significantly constrained by maintenance. Impacts are therefore considered ***Less Than Significant With Mitigation Incorporated.***

e. **No Impact**. The proposed project is subject to the City's Tree Preservation Ordinance (Roseville Municipal Code Chapter 19.66). Any removal of mature trees is anticipated to be rare. Native oak trees

equal or greater than 6 inches DBH in the City that are subject to removal or encroachment greater than 20% of the protected zone, defined as the tree's dripline plus one foot, are protected by City's Native Oak Tree Preservation Ordinance (Roseville Municipal Code Chapter 19.66) (it should be noted that the City does not issue Tree Permits to itself but otherwise complies with ordinance requirements). The City will offset the loss of any regulated oak tree through on-site planting or the use of the City's in-lieu fee program pursuant to Resolution #03-546 (City 2016, City of Roseville 2003) however, as a practice the City will preferentially trim rather than remove live trees greater than 4 inches DBH. Routine Maintnenace Activities will be conducted in full compliance with the City of Roseville's Native Oak Tree Preservation Ordinance; ***no impact*** to the ordinance is anticipated. No further mitigation is required.

f. **Less Than Significant Impact With Mitigation Incorporated.** There are no Habitat Conservation Plans or Natural Community Conservation Plans within the City of Roseville. Maintenance Activities would be implemented consistent with the *City of Roseville Open Space Preserve Overarching Management Plan*. The RMA will be consistent with the guidelines specified in the *City of Roseville Open Space Preserve Overarching Management Plan*; therefore, the project would not conflict with any existing Habitat Conservation Plan or Natural Community's Conservation Plan.

The City is within the California Red-legged Frog Recovery Plan Area (USFWS 2002). While flood control maintenance is described as potentially degrading to California red-legged frog (CRLF) habitat in the 2002 recovery plan, maintenance efforts covered under the RMA will be focused on maintaining existing conditions. In situations where permanent impacts to stream channels are necessary, impacts will be mitigated by restoring or enhancing riparian habitat elsewhere in the City as specified in mitigation measure **BIO-10**. With the inclusion of mitigation for permanent impacts within the CRLF Recovery Plan Area, project impacts to the CRLF Recovery Plan Area will be ***Less Than Significant Impact With Mitigation Incorporated*****.**

Mitigation Measures:

The following mitigation measures would be incorporated to reduce impacts to a less than significant level:

BIO-1: Prior to beginning any maintenance work under the RMA, 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.

The City shall conduct an education program for all persons employed or otherwise working on the project site prior to performing any work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology of the habitats and species that may occur during routine maintenance. The Designated Biologist shall also include as part of the education program information about the distribution and habitat needs of any special-status species that may be present, legal protections for those species, penalties for violations and project-specific protective measures. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the program and understand all protection measures.

BIO-2: The City shall not conduct routine maintenance activities within vernal pools or playas that seasonally remain inundated for periods of 2 months or longer. Temporary impact areas, including access routes and staging areas, will also be positioned outside of vernal pools and playas. If maintenance work or associated temporary impact areas are close to one of these habitats (<20 feet), the boundary of the work area in proximity to the sensitive habitat must be marked with ESA high visibility orange fencing to prevent maintenance equipment or personnel from entering the protected habitat.

BIO-3: Prior to routine maintenance within rare plant habitat, pre-maintenance rare plant surveys may be required. If it is determined that there is a potential for rare plants to occur, maintenance areas would

be surveyed for rare plants by a City appointed biologist during the appropriate bloom period for Boggs Lake hedge-hyssop (April-August), Sanford's arrowhead (May – October) and legenere (May – June). If additional species of rare plant are discovered within the City, surveys may be required during their appropriate bloom period as well. Survey results will be submitted to CDFW as an attachment to the VRFs. Rare plant populations discovered onsite will be protected in place with orange ESA fencing.

If rare plant populations cannot be protected in place, the City will coordinate with CDFW. It is anticipated that coordination will result in either rare plant relocation or compensatory mitigation.

BIO-4: The time period for completing the work within the wetted channel of Dry Creek, Miner's Ravine, and Secret Ravine shall be restricted to periods of low stream flow and dry weather and shall be confined to the period of May 1st to October 15th. Construction activities shall be timed with awareness of precipitation forecasts and likely increases in stream flow. Construction activities within the stream zone shall cease until all reasonable erosion control measures, inside and outside of the stream zone, have been implemented prior to all storm events. Revegetation, restoration and erosion control work is not confined to this time period.

In addition, work within the bed, bank or channel of any stream shall be restricted to periods of dry weather (with less than a 30% chance of rain). All erosion control measures shall be initiated prior to all storm events. Revegetation, restoration and erosion control work is not confined to this work period. The City shall monitor the National Weather Service (NWS) 72-hr forecast to monitor forecasted rain events.

If emergency maintenance is required, seasonal limitations do not apply. Emergency maintenance is defined as immediate emergency work necessary to protect life or property, or to restore public service facilities necessary to maintain service. The City will notify CDFW within 14 days of beginning maintenance work.

BIO-5: If possible, vegetation removal and ground disturbance should occur outside the breeding season for all bird species (September 1st – January 31st).

If vegetation removal or ground disturbance is to take place during the nesting season (February 1st – August 31st), a pre-construction nesting bird survey must be conducted within 3 days prior to vegetation removal or ground disturbance. The nesting survey area will include the anticipated work area plus an approximate 500 foot buffer. All areas within 100 feet will be surveyed for nesting birds. All tall trees and structures potentially providing nesting habitat for raptors will be surveyed with high powered binoculars or a spotting scope. If a pre-construction survey is not feasible, then a full time biological monitor may substitute for the preconstruction survey. The biological monitor will work slightly in advance of maintenance crews searching for nests and monitoring bird activity for stressful behaviors that could indicate a nearby nest. The biological monitor must remain onsite for the duration of work and have the power to halt maintenance work if evidence of nesting birds is discovered.

A 100-foot no disturbance buffer will be established around active bird nests protected by the Migratory Bird Treaty Act (MBTA) and Fish and Game Code 3503 and 3503.5. A reduced song bird buffer may be appropriate if agreed upon on a case by case basis by CDFW. Should an active raptor nest be found, an increased buffer distance may be appropriate. Raptor buffer distances will be approximately 300 feet but final buffer distances will be determined through consultation with CDFW. Should maintenance activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no disturbance buffer will be increased such that activities are far enough from the nest to stop this agitated behavior. The no disturbance buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.

If there is a break in construction activity of more than 2 weeks, subsequent surveys should be conducted.

BIO-6: If maintenance activities are planned in suitable burrowing owl habitat, qualified biologists approved by CDFW will conduct a habitat assessment level survey for burrowing owl within 1-2 weeks of the

start of construction. If burrowing owls are not detected, no further mitigation will be required. If burrowing owls are observed within 500 feet of the maintenance area, the City will develop an Impact Assessment consistent with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) and submit the Impact Assessment to CDFW prior to maintenance work. The Final avoidance and mitigation measures will be determined in coordination with CDFW but the Impact Assessment will at a minimum include the following mitigation measure:

Occupied burrows will not be disturbed during the breeding season (February 1st to August 31st) unless a qualified biologist verifies through non-invasive methods that either: 1) the birds have not begun egg-laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. If avoidance of active nests is preferred, the biologist will consult with CDFW to determine appropriate no-work buffer widths. The City will not disturb identified burrowing owl burrows until the qualified biologist verifies it has been cleared and approved by CDFW.

BIO-7: The City will avoid impacts to elderberry shrubs in a manner consistent with the *Biological Opinion on Service Approval of the City of Roseville Open Space Preserve Overarching Management Plan* (BO # 81420-2008-F-1958-3). If maintenance activities cannot avoid impacts to elderberry shrubs, and the impact isn't covered under the biological opinion prepared for the City's Open Space Preserve Overarching Management Plan, the City must initiate Consultation with the USFWS. The City will mitigate for impacts to the species consistent with the existing USFWS BO, or as may be determined via a Section 10 consultation which could include relocating elderberry shrub(s) to a USFWS approved mitigation bank and purchasing mitigation credits according to Table 1 in the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999).

BIO-8: Swallow nest removal should occur during the non-nesting season (September 1st – January 31st) after the young of the year have fledged and no nesting activity is observed. Swallow nests will not be removed until they have been inspected by a qualified biologist and determined to be inactive. During the nesting season, the City may discourage swallow nest construction by removing partially completed nests that are less than 1/3rd complete. After a nest is more than 1/3rd complete, it cannot be disturbed until a qualified biologist has determined that all nestlings have fledged and are foraging independently.

BIO-9: Structures will be assessed for bat occupation prior to initiation of work. The City must coordinate with CDFW prior to conducting maintenance work on bridges or structures occupied by bats. If a structure occupied by bats must be maintained, bats will be excluded prior to the pupping season (April 15th – August 31st). Bat exclusion must be conducted under the supervision of a qualified bat biologist experienced in bat exclusion. If no alternative roosting habitat (e.g. other bridges or structures) is available within 1000 feet of the maintenance area, temporary bat accommodations may be required.

BIO-10: The City will create or purchase compensatory mitigation for permanent impacts to jurisdictional features. Mitigation will be created by the City within City owned open space or purchased from a CDFW approved mitigation bank at a minimum 3:1 ratio (or a combination of restoration and mitigation credits). Permanent impacts are defined as actions that result in a permanent modification to wetlands, stream channels, or riparian habitats (e.g. new impervious cover, rock lining, placement of fill). Mitigation will be calculated based on the area of impact.

Mitigation sites will be monitored for a period of 5 years. A mitigation site will be deemed successful if it meets success standards for plant survivability and non-native cover. If success criteria are not met, corrective actions including supplemental planting, watering, or weeding may be required. Success criteria will be determined in consultation with CDFW during the preparation of a Habitat Mitigation and Monitoring Plan (HMMP) that will be prepared and submitted to CDFW for review within 180 days following the adoption of the RMA. If maintenance activities result in a permanent impact requiring mitigation before the HMMP is approved by CDFW, the City will purchase compensatory mitigation from a CDFW approved mitigation bank at a 3:1 ratio.

3.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
e. Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resource Code 21074 (i.e. AB 52)?	☐	☒	☐	☐

Discussion of Checklist Answers:

a,b. **Less Than Significant With Mitigation Incorporated**. 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. Activities that take place above or on the ground surface do not have the potential to harm these resources; however, activities that require below ground (any type of excavation or earth movement) do have the ability 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; collecting core samples; and installation of rock slope projection armoring, rock gabions, and/or sacked concrete/rocks.

As shown in Table 4, Cultural Resource Sensitivity Designation, based on the data collected at the North-Central Information Center 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. These areas are depicted on Figure 5, Cultural Sensitivity Areas. For all routine maintenance areas not classified as Category A, both Above Ground and Below Ground Maintenance Activities are allowed.

TABLE 4: 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 as a result of archaeological survey, Below Ground Maintenance Activities may proceed as needed.

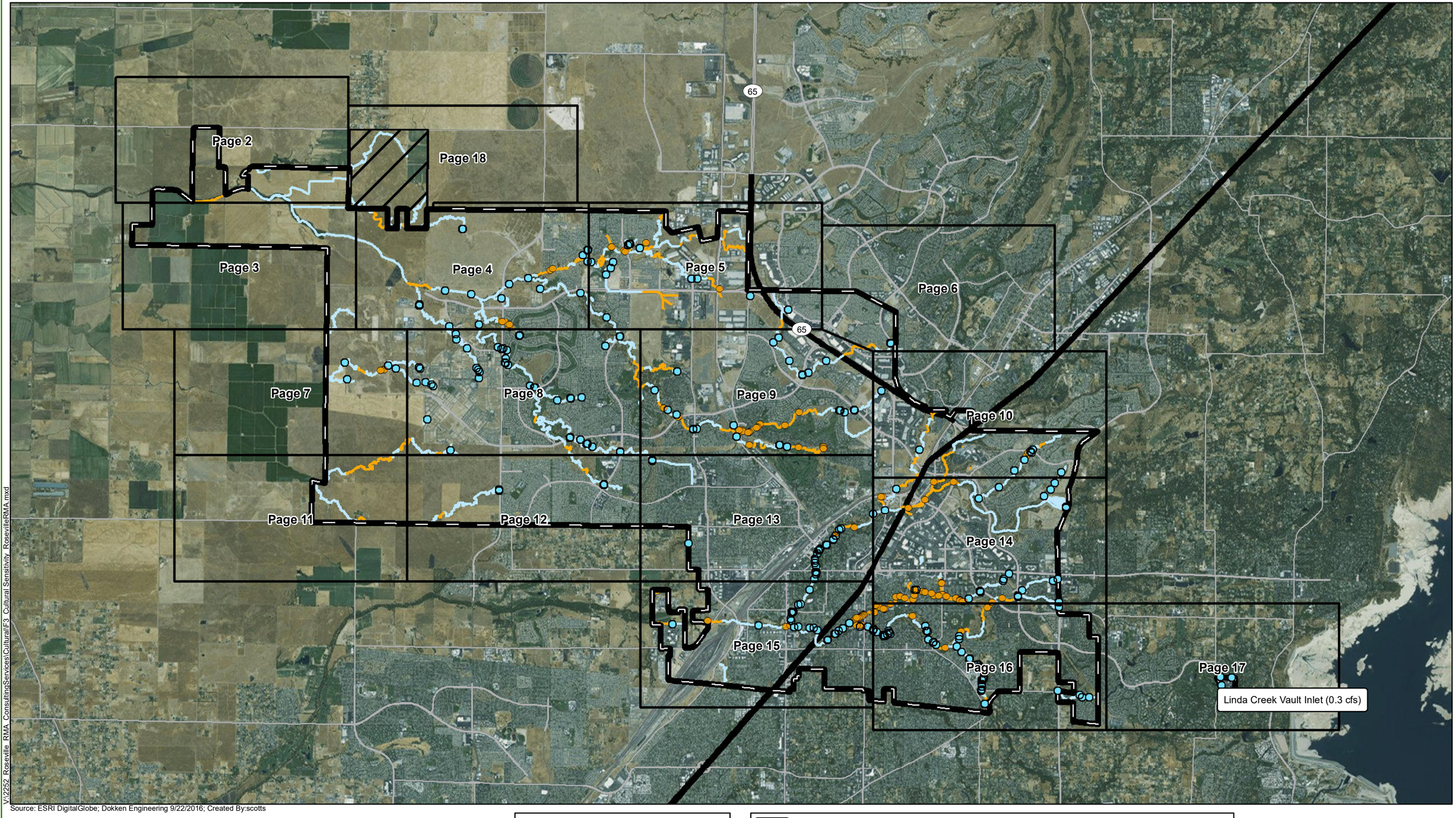
Adherence to mitigation measures **CR-1, CR-2, CR-3**, and **CR-4** will ensure the project shall not impact the significance of an historical or archaeological resource. Implementation of **Mitigation Measure CR — 1** would reduce potential impacts to historical and archaeological resources to ***Less Than Significant With Mitigation Incorporated***.

c. **No Impact**. Based on the geologic map of the Sacramento Quadrangle, the City is predominantly underlain by the Quaternary formations (Turlock Lake Formation, Riverbank Formation, Basin deposits, Alluvium, and Modesto-Riverbank Formations) with only a very small portion underlain by a Tertiary formation (Mehrten Formation) (Wagner et. al. 1981). Turlock Lake Formation, Riverbank Formation, Modesto-Riverbank Formations and have high paleontological sensitivity, while Basin deposits and Alluvium have low paleontological sensitivity (Garcia and Associates 2007). However, the possibility of a paleontological discovery is unlikely because project maintenance activities are limited to above ground maintenance or stream sediment removal from very recent deposits. 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 could have the potential to affect paleontological resources. If paleontological resources are found, all work in the area would stop until a qualified paleontologist completes a determination of their significance as detailed in **Minimization Measure CR-3**. Impacts to unique paleontological or geological features will be ***Less Than Significant With Mitigation Incorporated.***

d. **Less Than Significant With Mitigation Incorporated**. No known burial sites or cemeteries exist within the streams and channels where routine maintenance activities would occur. 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 will 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.

Implementation of **Mitigation Measure CR — 4** would reduce this potential impact to ***Less Than Significant With Mitigation Incorporated***.

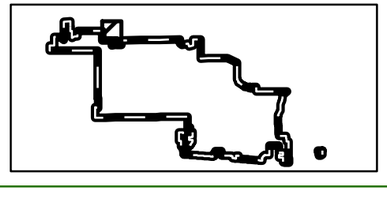
e. **Less Than Significant With Mitigation Incorporated**. The City sent AB52 consultation request letters certified mail on July 19, 2016 to Native American tribes who requested to be notified of projects within Roseville. As a result of these letters, no consultation requests were received within the required 30-day response period and, therefore no tribal cultural resources were identified within the routine maintenance areas. However, implementation of **CR-2** would reduce potential impacts to previously unknown tribal cultural resources to ***Less Than Significant With Mitigation Incorporated***.



V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 6,000 12,000 18,000 24,000 Feet



City Boundary

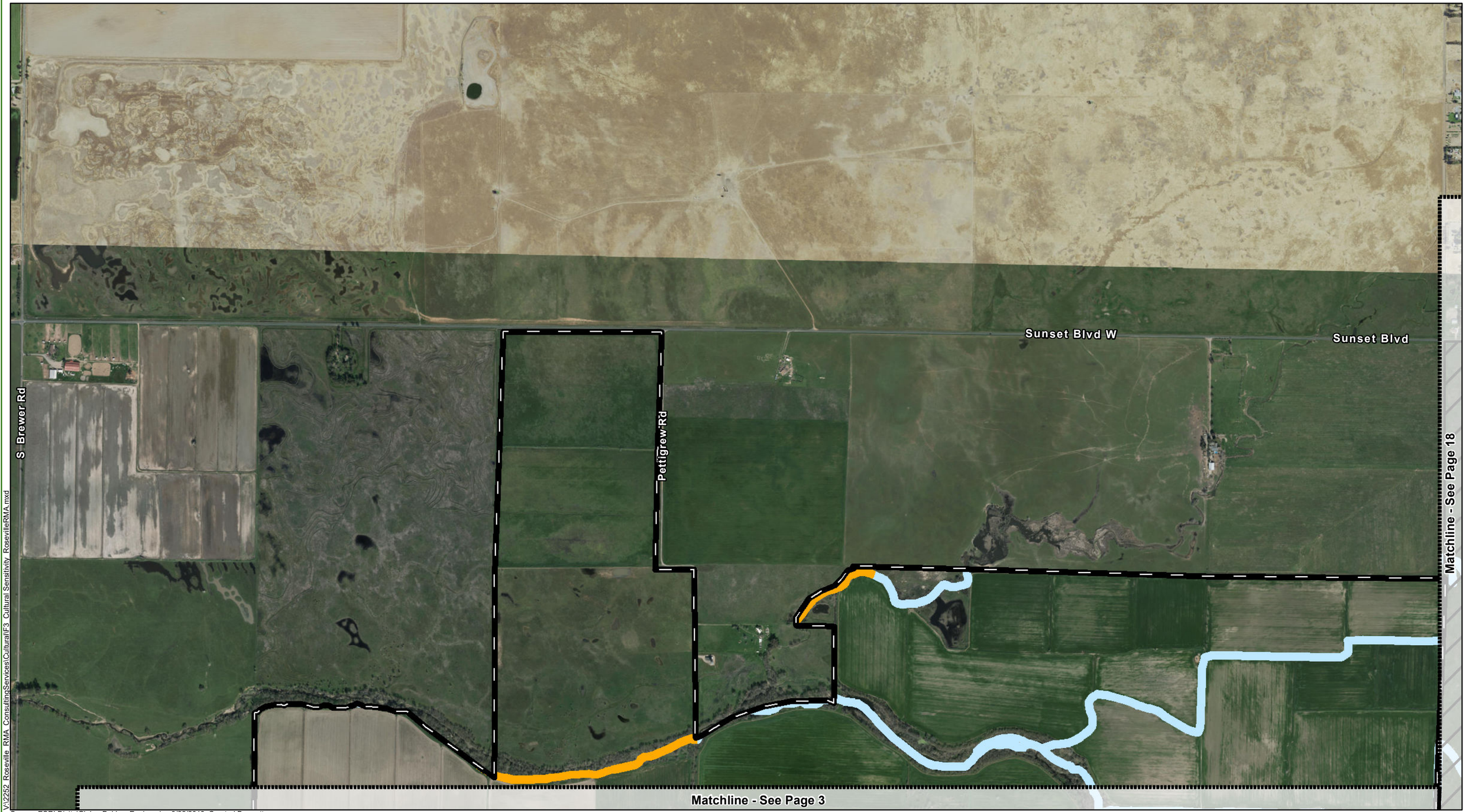
Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 1 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary
Amoruso Ranch Specific Plan Area
Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.
Both Above Ground and Below Ground Maintenance Activities are allowed.
Outfall

FIGURE 5
Page 2 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 2

Pettigrew Rd

Philip Rd

Phillip Rd

Country Acres Ln

Matchline - See Page 4

Matchline - See Page 7

V:\2252_Roseville_RMA_ConsultingServices\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 3 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 18

Matchline - See Page 3

Matchline - See Page 5

Matchline - See Page 7

Matchline - See Page 8

Phillip Rd

Curnan Way

Fiddyment Rd

Northpark Dr

Blue Oaks Blvd

Stagecoach Cir

Northstar Ln

Rosestone Ln

Timberrose Way

Council Rock Rd

Del Webb Blvd

Hayride Ln

Cope Ridge Way

Buckskin Ln

Early Way

Tail Race Dr

Whistlestop Way

V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

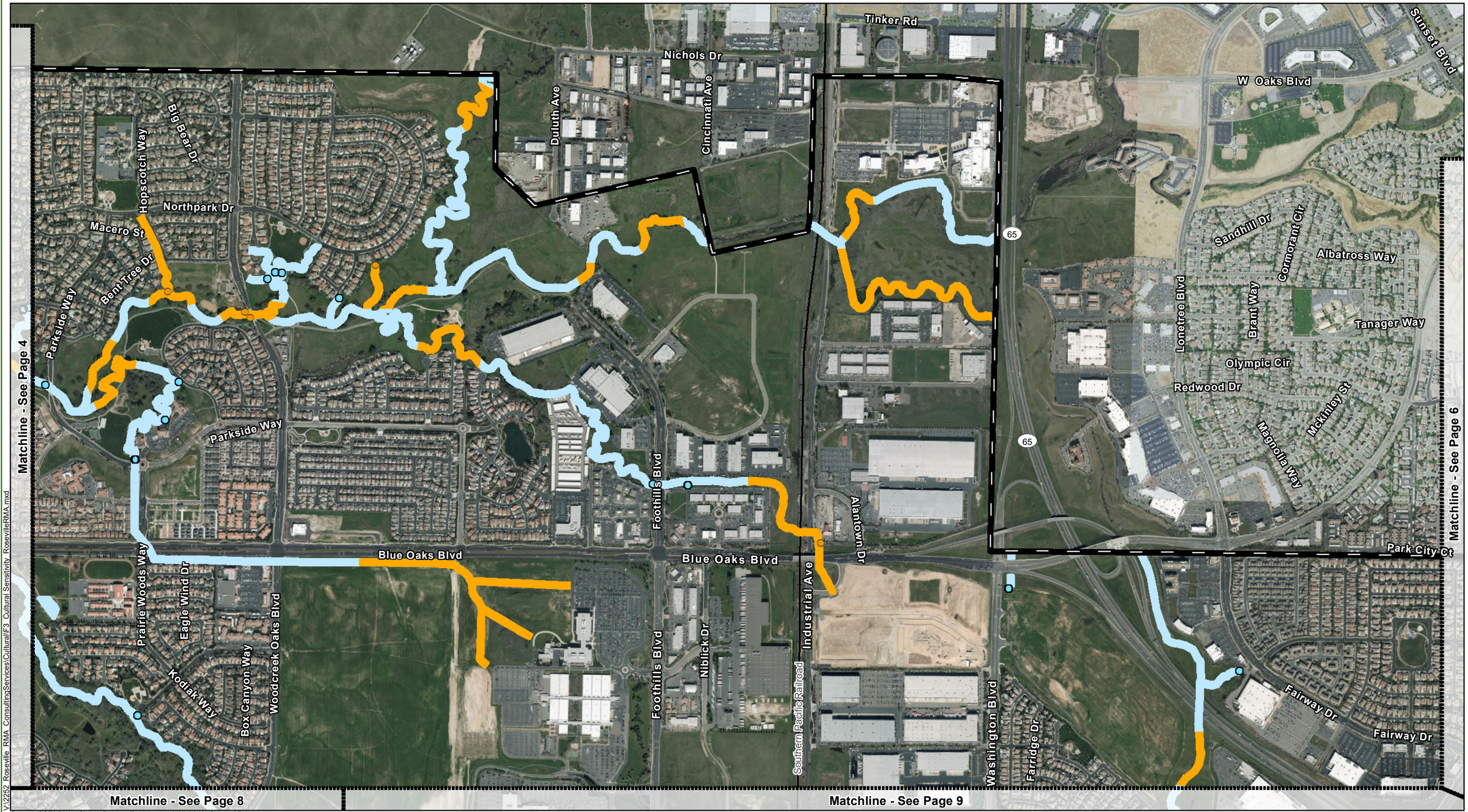
Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

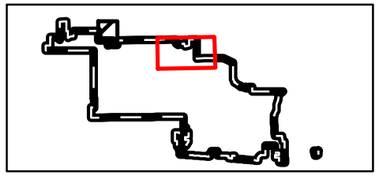
FIGURE 5
Page 4 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 5 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

V:\2252 Roseville RMA Consulting\Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 6 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 3

Matchline - See Page 4

Country Acres Ln

Country Acres Ln

Matchline - See Page 8

Matchline - See Page 11

V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

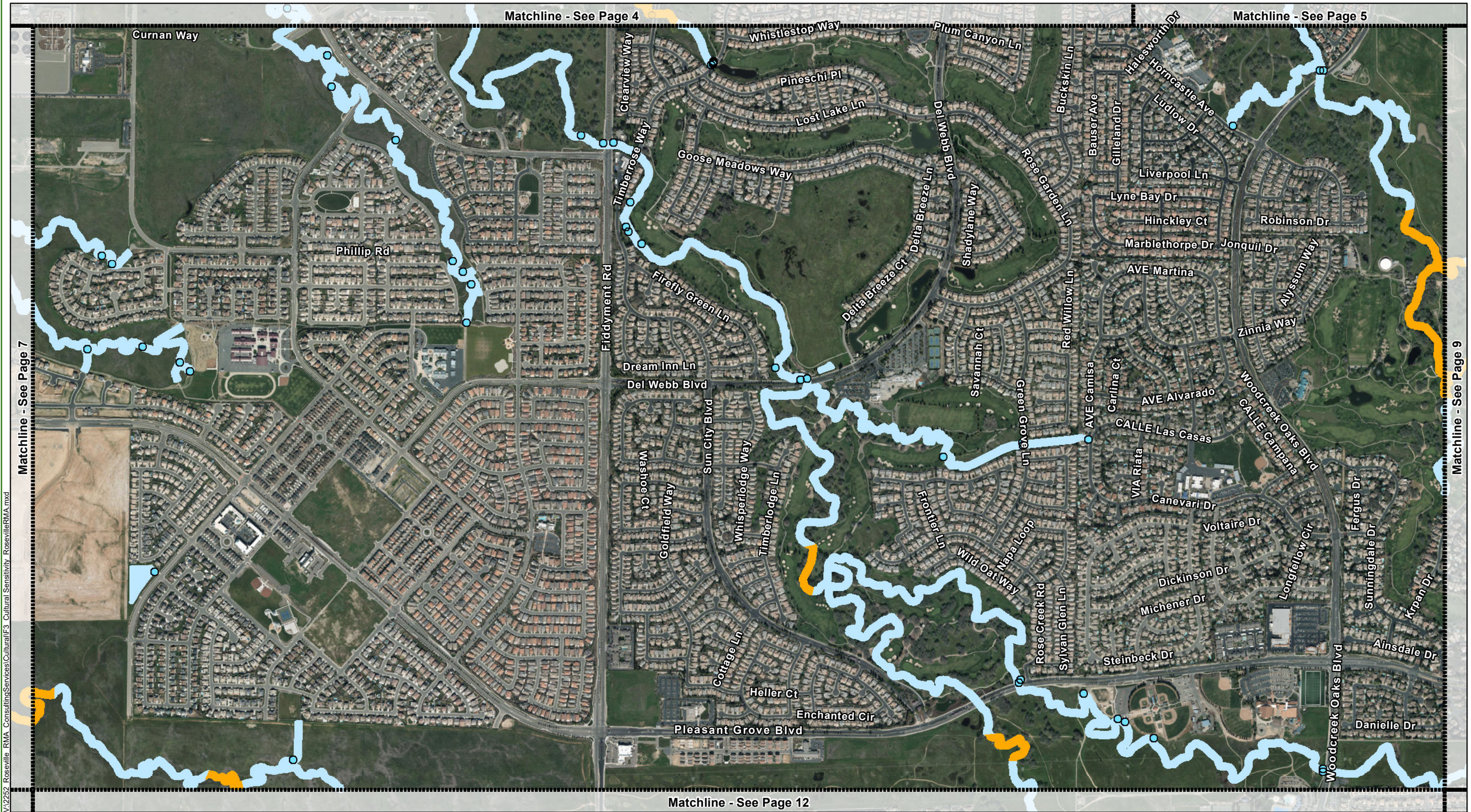
Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

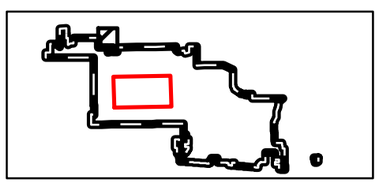
FIGURE 5
Page 7 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252_Roseville_RMA_ConsultingServices\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 8 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 5

Matchline - See Page 6

Matchline - See Page 8

Matchline - See Page 10

Matchline - See Page 13

Foothills Blvd
Industrial Ave
Southern Pacific Railroad
Washington Blvd
Anacapa Dr
Manhattan Dr
Sherbourg Dr
Yale Dr
Brennen Cir
Camelot Ct
Cascade Dr
Trestle Rd
Shire Ct
Morgan Way
Pleasant Grove Blvd
Park Dr
Fairway Dr
65
Bettencourt Dr
Hallissey Dr
Laurel Dr
Norfolk Ct
Pioneer Rd
Treecrest Ct
White Birch Ct
Alden Way
Avila Dr
Bridgeway Ct
Gibson Dr
Roseville Pky
Galleria Cir
Heritage Dr
Valley Glen Dr
Oak Grove Dr
Brook Park Way
Blue Ln
Misty Wood Dr
Long Creek Way
Tenby Ct
Krpan Dr
Laporte Dr
Heredia Dr
Mcmindes Dr
Gallilee Rd
Farmington Cir
Winslow Dr
Gingerhill Ct
Legacy Ct
Valleywood Dr
Caldarella Cir
Crescent Dr
Cypress Ln
Old Hwy 65
Pleasant Grove Blvd
Trehowell Dr
Chantilly Ct
Belvedere Cir
Bel Air Ln
Ainsdale Dr
Country Club Dr
Kipling Ct
Alcott Ct
Beckett Dr
Cicero Ct
Melville Ct
Sinclair Way
Fleming Dr
Rigby Ct
Linfield Dr
S Bluff Dr
Hawthorne Loop
All American City Blvd
SPRR
Derek Pl
Hancock Dr
Firestone Dr
Katherine Pl
Jennifer Cir
Ironwood Cir
Cody Ct
Nicklaus Cir
Shasta St
Diamond Oaks Rd
Murray Way
Grider Dr
Reserve Dr

V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 9 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 6

Matchline - See Page 9

Matchline - See Page 13

Matchline - See Page 14

Fairway Dr
Five Star Blvd
Stanford Ranch Rd
Onyx Dr
Inyo Ct
Lincoln Ave
Springview Dr
Bridal Veil Dr
Doheny Ct
Pinnacles Dr
S Whitney Blvd
Bryce Way
Allan Dr
Allan Ct
Willowynd Dr
Meadowdale Ct
Rainier Ave
Rippling Way
Destiny Dr
65
Galleria Cir
Galleria Blvd
Antelope Creek Dr
Roseville Pky
Roseville Pky
Roseville Pky
Galleria Blvd
Taylor Rd
Stonehouse Ct
Pacific St
Westwood Dr
Hemlock Way
Hickory Way
Merrywood Dr
Woodside Dr
Cone Ct
Sequoia Ct
Kingwood Cir
South Pacific Railroad
Willard Way
Sunset Blvd
Sunset Blvd
Winding Ln
Ruhkala Rd
Evelyn Ave
Lost Ave
Kannasto St
S Grove St
Oakridge St
China Garden Rd
Keller Ct
Rustic Hills Dr
Aguilar Rd
Corona Cir
Foothill Rd
Greenbrae Rd
80
Longview Dr
Echo Ridge Rd
Tenbury Ln
Scarborough Dr
Camborne Way
Tadworth Way
Sierra College Blvd
Hidden Valley Pl
Baywood Rd
Secret Ravine Dr
Private Rd
E Roseville Pky
E Roseville Pky

V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 10 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 7

Country Acres Ln

Base Line Rd

Baseline Rd

Matchline - See Page 12

Watt Ave

V:\2252_Roseville_RMA_ConsultingServices\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 11 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Matchline - See Page 8

Matchline - See Page 11

Matchline - See Page 13

Westhills Dr
Hummingbird Way
Derrylin Dr
Roadrunner Dr
Blackbird St
Aylesbury Way
Hilmerton Cir
Privett Ct
Acton Way
Thunderbird Ct
Troon Ct
Caragh St
Brookline Cir
Woodcreek Oaks Blvd
Turnberry Ln
Junction Blvd
Ledbury St
Killarney St
Junction Blvd
Morningstar Dr
Ambridge Dr
Darby St
Stonecrest Dr
Tatiana St
Fiddyment Rd
Westlake Dr
Malachite Way
Sunstone Dr
Cadfael St
Magenta Dr
Park Regency Dr
Mockingbird St
Tanager Way
Whitstable Dr
Dashwood Dr
Varick Dr
Mifflen Ct
Eriswell Dr
Hatton Ct
Atwell St
Formby Way
Lathwell Way
Herne Ct
Cargill Way
Country Club Dr
Soledad Dr
San Jose Way
Santa Ines St
San Diego Cir
Casterbridge Dr
Cressida St
Goldstar St
Snow Goose Way
Marinette Ln
Blanchard Dr
Pennell Ct
Hadnall Ct
Luton Dr
Vanston Way
Knowlton Ct
Lockhart Way
Mill Run Dr
Baseline Rd
Base Line Rd
Baseline Rd
Base Line Rd
Base Line Rd
Kenwood Way
Blackwood Ln
Central Ave
Carolyn Ct
Oak Ave
Central Ave
Walerga Rd
Crowder Ln
Muirwood Ln
Vineyard Ln
Bianchi Rd
Tiny Ln
Cook Riolo Rd
Country Place Dr
Mercedes Pl
Eva Ln
Vineyard Rd

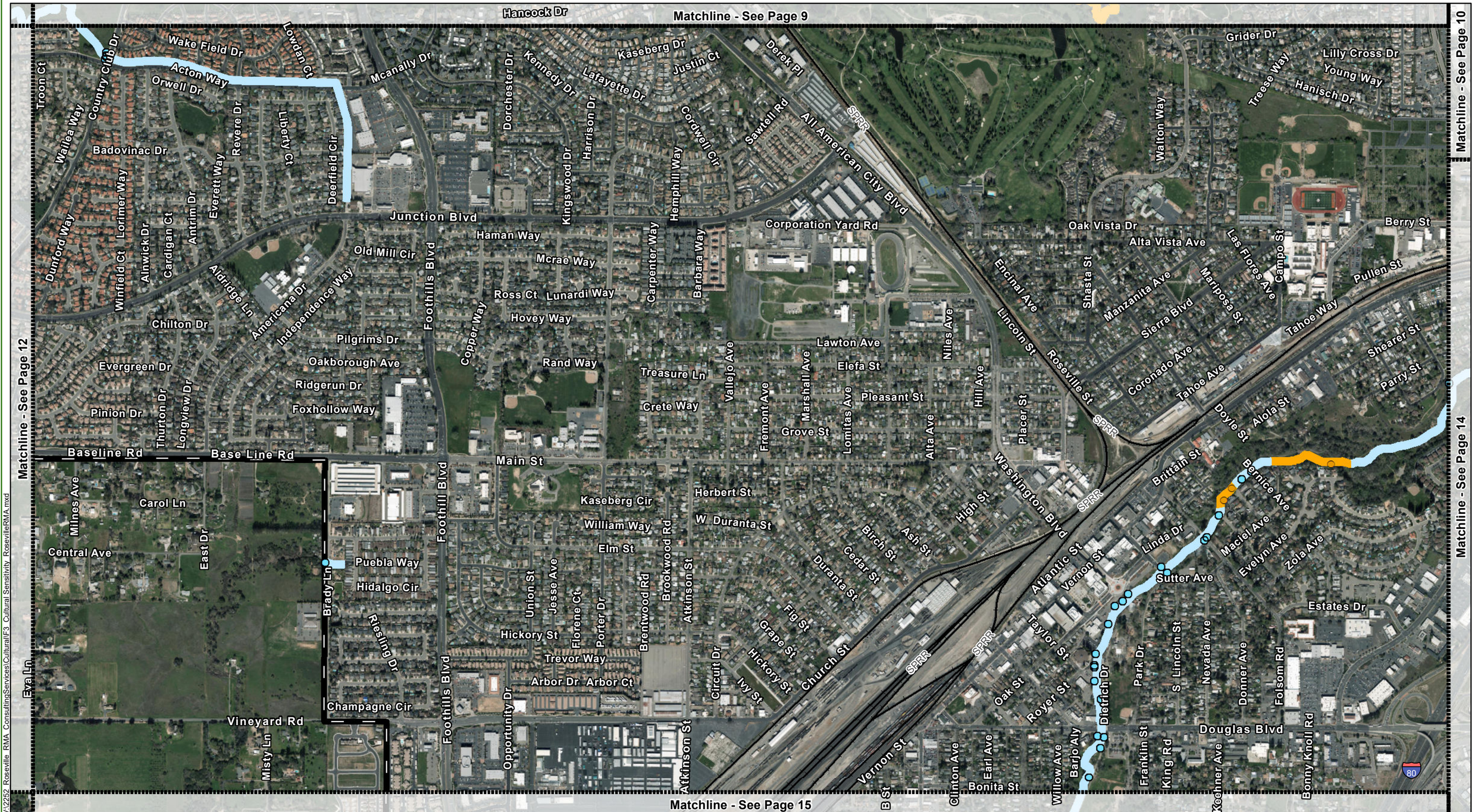
V:\2252 Roseville RMA Consulting Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary
Amoruso Ranch Specific Plan Area
Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.
Both Above Ground and Below Ground Maintenance Activities are allowed.
Outfall

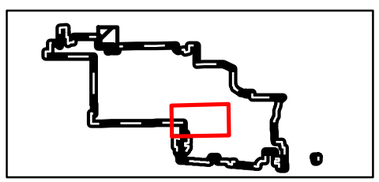
FIGURE 5
Page 12 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252 Roseville RMA Consulting\Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



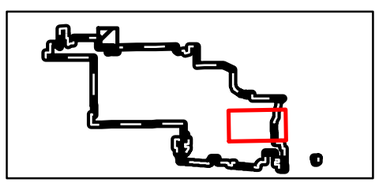
- City Boundary
- Amoruso Ranch Specific Plan Area
- Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.
- Both Above Ground and Below Ground Maintenance Activities are allowed.
- Outfall

FIGURE 5
Page 13 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

V:\2252 Roseville RMA Consulting\Services\Cultural\F3 Cultural Sensitivity RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet



City Boundary

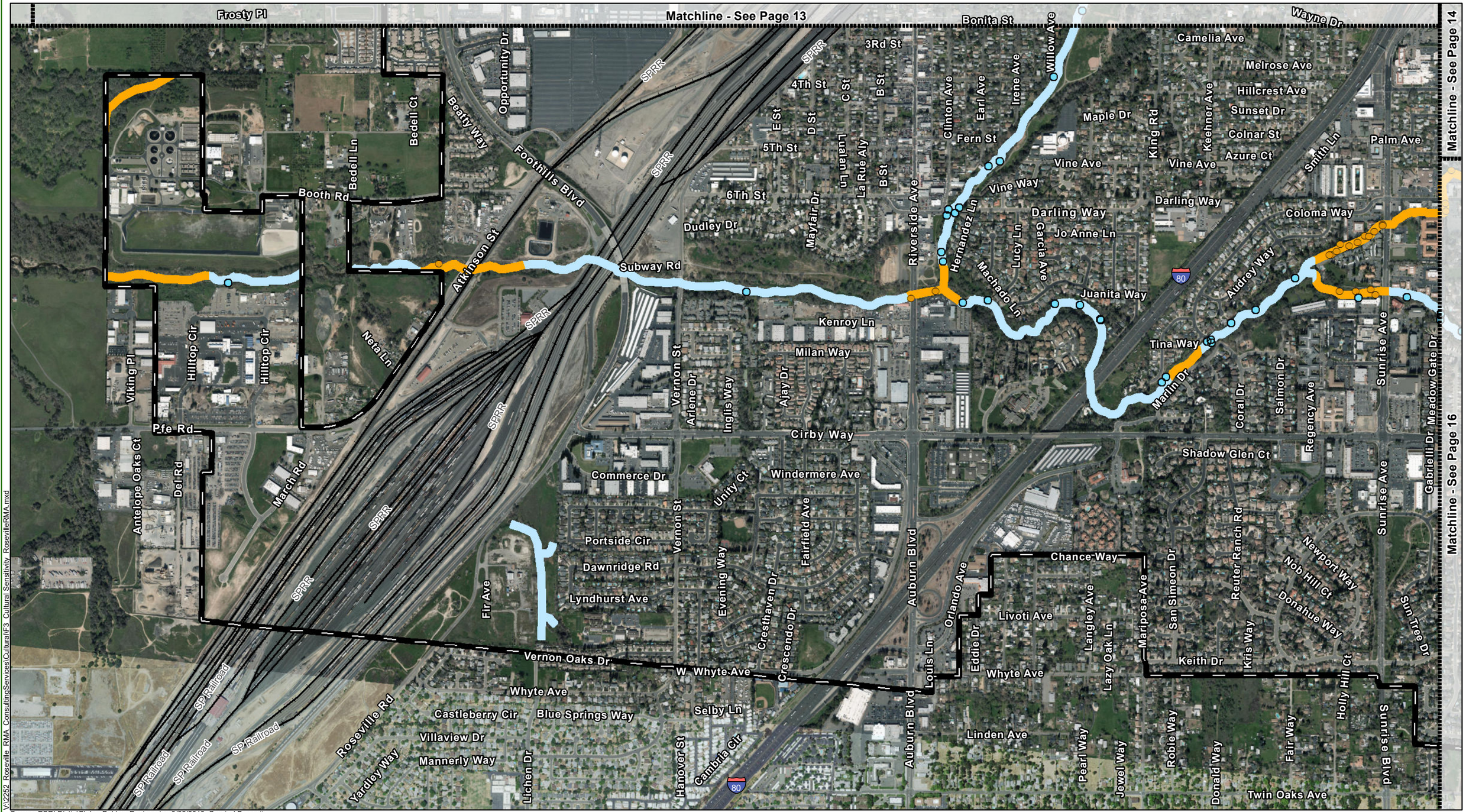
Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

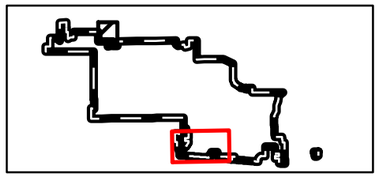
FIGURE 5
Page 14 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

V:\2252_Roseville_RMA_ConsultingServices\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

0 1,000 2,000 3,000 4,000 Feet



City Boundary

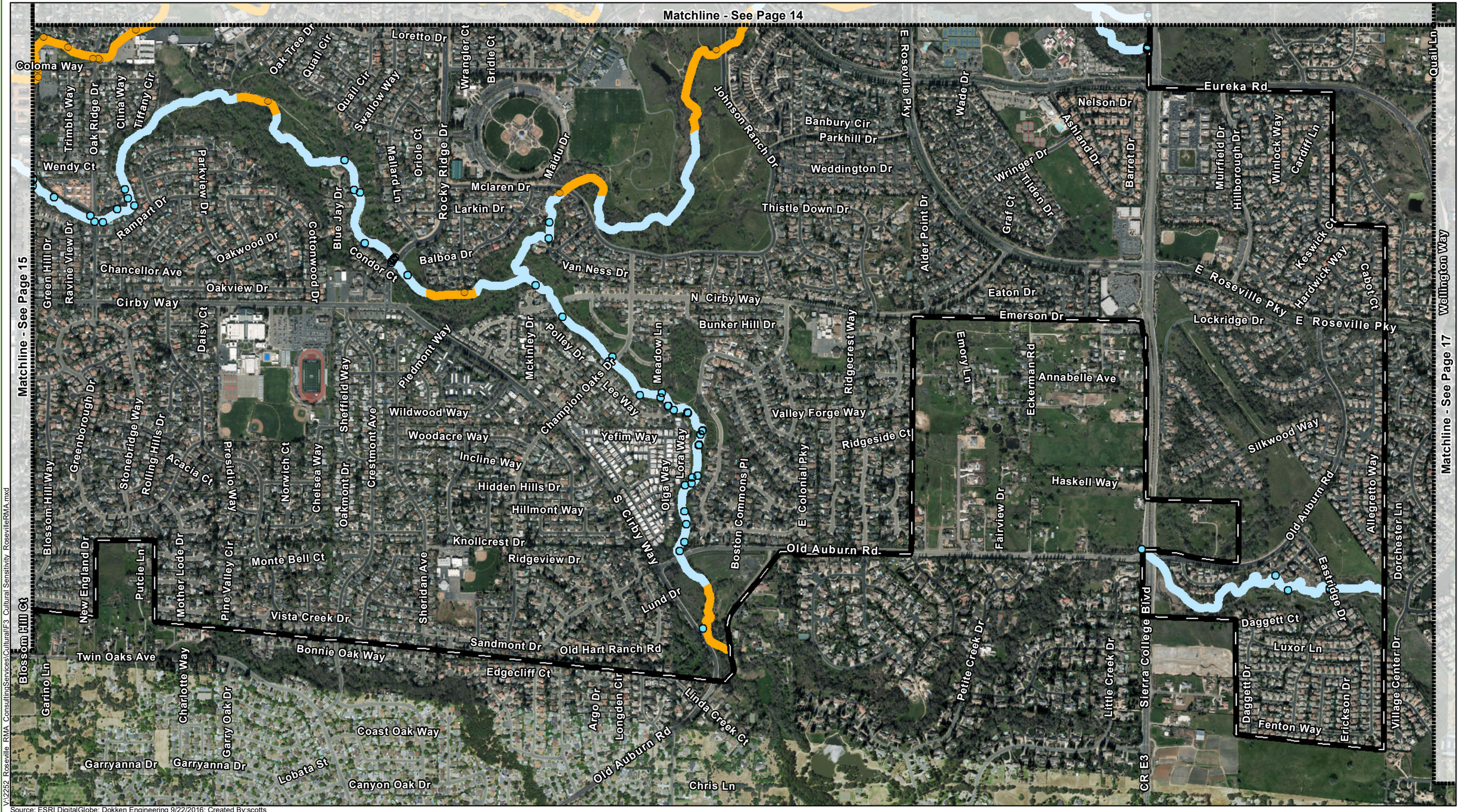
Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 15 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252_Roseville_RMA_ConsultingServices\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

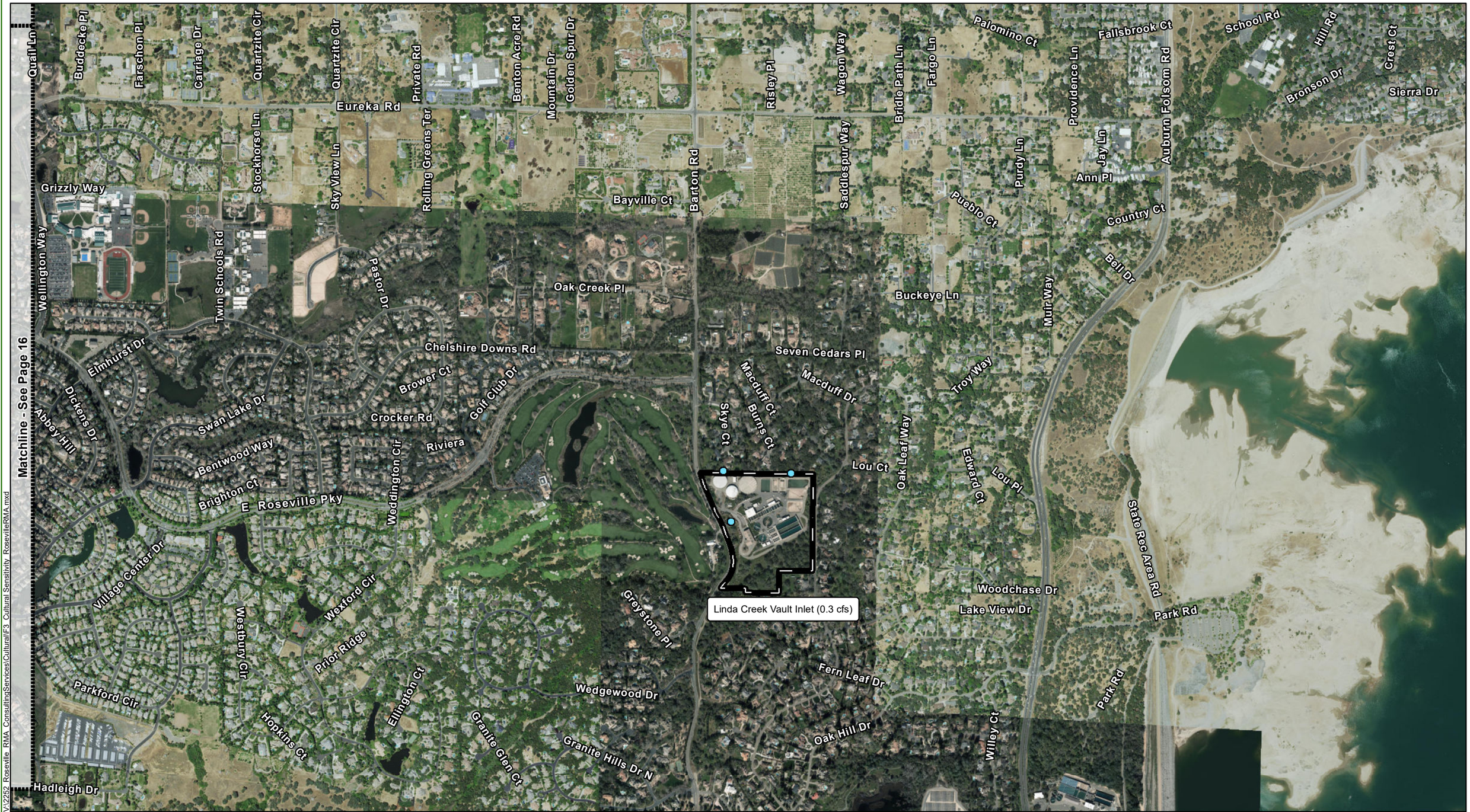
Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 16 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California



V:\2252_Roseville_RMA_ConsultingServices\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 17 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

V:\2252_Roseville_RMA_Consulting\Services\Cultural\F3_Cultural Sensitivity_RosevilleRMA.mxd

Source: ESRI DigitalGlobe; Dokken Engineering 9/22/2016; Created By:scotts

0 1,000 2,000 3,000 4,000 Feet

City Boundary

Amoruso Ranch Specific Plan Area

Category A: Archaeological survey and/or evaluation required prior to Below Ground maintenance activities. Above Ground Maintenance Activities are allowed.

Both Above Ground and Below Ground Maintenance Activities are allowed.

Outfall

FIGURE 5
Page 18 of 18
Cultural Sensitivity Area
City of Roseville RMA
City of Roseville, Placer County, California

Mitigation Measures:

CR-1: In routine maintenance areas classified as Category A, Below Ground Maintenance Activities are permissible only if first surveyed and determined to be "clear" by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology. Above Ground Maintenance activities are allowed.

CR-2: If previously unidentified archaeological, historic, and/or tribal cultural resources are unearthed during construction, all ground disturbing activities shall be immediately suspended in that area and within 100 feet of the discovery. A qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology, the City of Roseville, and, if the discovery involves Native American cultural resources, the affected Native American tribes (as determined by the Native American Heritage Commission [NAHC]), shall assess the significance of the find and determine appropriate mitigation, if necessary. Additional archaeological survey will be needed if project limits are extended beyond the present routine maintenance area limits. If adverse impacts to tribal cultural resources, unique Native American archaeological resources, or other Native American cultural resources occur during the project, the City of Roseville shall notify the Native American Heritage Commission who will contact the affected Native American tribe for consultation regarding mitigation, pursuant to Public Resources Code section 21084.3(a) and (b) and CEQA Guidelines 15370.

In addition, **Mitigation Measure CR — 3 and CR — 4** are proposed to ensure potential impacts to tribal cultural resources, paleontological, and cultural resources remain less than significant.

CR-3: Previously Unidentified Paleontological Resources
The City shall ensure crews are informed of the following information during maintenance worker environmental training:

- If substantial fossil remains (particularly vertebrate remains) are discovered during earth-disturbing activities on the project site, activities will stop immediately until a state-registered Professional Geologist or Qualified Professional Paleontologist can assess the nature and importance of the find and a Qualified Professional Paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The City will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.

CR- 4: Inadvertent Discovery of Human Remains
The City shall ensure construction specifications include the following in the grading notes:

- If human remains are discovered during any phase of construction, including disarticulated or cremated remains, the construction contractor shall immediately cease all ground-disturbing activities within 100 feet of the remains and notify the City Environmental Coordinator.
- In accordance with California State Health and Safety Code Section 7050.5, no further disturbance shall occur until the following steps have been completed:
    - The County Coroner has made the necessary findings as to origin and disposition pursuant to PRC § 5097.98.
- If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. It is further recommended that a professional archaeologist with Native American burial experience conduct a field investigation of the specific site and consult with the Most Likely Descendant (MLD), if any, identified by the NAHC. As necessary and appropriate, a professional archaeologist may provide technical assistance to the MLD, including but not limited to, the excavation and removal of the human remains.

3.6 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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.	☐	☐	☐	☒
ii. Strong seismic groundshaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Section 1803.5.3 of the 2010 CBC, creating substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion of Checklist Answers:

a. No Impact. The project would not expose people or structures to potential substantial or adverse effects.

i. Pursuant to the Safety Element of the City General Plan, there are faults within 12 miles of the City. The south Placer County area is classified as a low-severity earthquake zone. Three inactive faults lie within the immediate Roseville vicinity: the Volcano Hill Fault, extending approximately one mile northwesterly from just east of the Roseville City Limits; the Linda Creek Fault, extending along a portion of Linda Creek through Roseville and a portion of Sacramento County; and an unnamed fault extending east to west between Folsom Lake and Rocklin. However, the California Department of Conservation (CDC) California Geological Survey does not list Placer 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 or Placer County (CDC 2010a, CDC 2010b).

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 (CDC 2010a, CDC 2010b). Specifically, the Proposed Project will be performing routine maintenance on existing habitats and structures and would not involve the construction of new structures which would regularly be occupied by people.

iii. Given the Proposed Project will be performing routine maintenance on existing habitats and structures, the Proposed Project would not create ground failure or liquefaction.

iv. Pursuant to the Safety Element of the City General Plan and the CDC Landslide Inventory, the the City and the surrounding Sacramento region is not an area at risk for Landslides (City of Roseville 2010a, CDC 2015). In addition, the Proposed Project will be performing routine maintenance on existing habitats and structures within the City's creeks and drainages and therefore would not create a substantial risk of landslides.

Therefore, there would be **No Impact** related to faults, seismic shaking, ground failure or liquefaction, or landslides. No mitigation is required.

b. Less Than Significant Impact. 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 Proposed 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 will 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 will limit to the minimum necessary the amount of fill or sediment removal that can occur below the ordinary high water mark at any single location. In addition, should gunite be used, it will only be used at locations where it will not enter or be washed into a stream.

Storm water discharges within portions of Placer County, including the City, are permitted under Phase II of the National Pollutant Discharge Elimination System (NPDES) small municipal stormwater program MS4 (Order No. 2013-0001-DWQ). The program is part of the Federal Clean Water Act, administered in California by the Regional Water Quality Control Boards. The NPDES regulations require permitted areas to implement specific activities and actions to protect water quality by eliminating non-stormwater discharges and controlling stormwater pollution (Placer County 2014). The Proposed Project would be required to comply with the City's MS4 permit for discharges of urban runoff from, including the implementation of Low Impact Development (LID) practices, where applicable. Further, the Proposed Project would comply with the City's Design and Construction Standards (which provides standard erosion control BMPs) and will comply with the

City's Urban Stormwater Quality and Discharge Control Ordinance, which will adequately control erosion and effectively prohibit non-stormwater discharges (City of Roseville 2010b, City of Roseville 2010c). Therefore, Impacts would therefore be considered to be ***Less Than Significant.*** No mitigation is required.

c. **No Impact**. Refer to section a.i-iv. In addition, pursuant to the Safety Element of the City General Plan, the City's geographic location, soil conditions, and surface terrain combine to minimize risk of major damage from landslides, subsidence (gradual shrinking of the earth's surface due to underground resource extraction), or other geologic hazards resulting from seismic activity and related natural forces (City of Roseville 2010a). Therefore, there is no potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. ***No Impact*** would result from routine maintenance. No mitigation is required.

d. **No Impact**. The Proposed Project site is not located in an area of expansive soils and would not expose people to risk related to potential geologic impacts. The construction of buildings or structures is not included as a part of routine channel maintenance activities ***No Impact*** would result from the Proposed Project. No mitigation is required.

e. **No Impact.** The Proposed Project would not use a septic tank system. Sewage collection and disposal is not required for routine channel maintenance activities. Therefore, No Impact on soils related to the use of septic tanks would occur. No mitigation is required.

3.7 Greenhouse Gas Emissions

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

Discussion of Checklist Answers:

a,b. **Less Than Significant Impact**. Global Warming is a public health and environmental concern around the world. As global concentrations of atmospheric 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. Since the late 19th century, each of the past three decades has been successively warmer at the Earth's surface than any the previous decades in the instrumental record, and the decade of the 2000's has been the warmest (IPCC 2013).

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 3 lists 2014 California GHG emissions estimated by CARB based on carbon dioxide (CO_2) equivalent emission rates. CO_2 is the primary GHG emitted in California, accounting for 84% of total GHG emissions in 2014. California CO_2 gross emissions were approximately 441.54 million tons in

2014. As shown in the table, approximately 37 percent of GHG emissions from within California occur from transportation, 24 percent occur from industrial and 20 percent occur from electricity generation (CARB 2016b).

TABLE 5: California 2014 Greenhouse Gas Emissions Inventory - Gross Emissions and Sinks		
Category	**CO2 Equivalent (million tons)**	**Percent Total (of gross)**
Electricity Generation (In State & Imports)	88.37	20
Transportation	163.02	37
Agriculture & Forestry	36.11	8
Commercial and Residential	49.03	11
Industrial	104.22	24
Not Specified	0.79	< 1
Total (gross)	***441.54***	*100.00*

Source: (CARB 2016b)

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 will 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 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 will be accomplished through an enforceable statewide cap on GHG emissions that will 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.

Although the Proposed Project would contribute to GHG levels during implementation, routine maintenance activities would only have short-term, negligible GHG emissions as a result of the construction equipment and worker vehicles. Furthermore, related emissions sould not be new, but rather a continuation of the City's ongoing creek maintenance program, and therefore part of existing baseline inventories. 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. In addition, the City has not adopted a Climate Action Plan, nor any specific mandatory GHG reductions measures, other than enforcing and supporting the policies set forth in the General Plan, such as the circulation Element which helps reduce congestion and encourages non-motorized transportation. Therefore, the Proposed Project's contribution to global climate change through GHG emissions would be considered a ***Less Than Significant Impact***. No mitigation is required.

3.8 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that 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?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project vicinity?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project vicinity?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion of Checklist Answers:

a,b. **No Impact**. Routine maintenance activities will not require any unusual 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. Gasoline will be required for power tools but will be transported in less than reportable quantities (55 gallons). Herbicides will be applied in a manner consistent with the recommendations of the California Department of Pesticide Regulation and the City will not utilize rodenticides. The City will 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 Phase II MS4 NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit, the City's Design and Construction Standards, avoidance and minimization measures discussed in Section 2.7, and the City's Urban Stormwater Quality and Discharge Control Ordinance. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

c. **No Impact**. Routine maintenance activities may occur within ¼ mile of local schools. However, the proposed routine maintenance activities would not involve the use or handling of any unusual hazardous or acutely hazardous materials, substances, or waste. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

d. **No Impact**. 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 CEQA requirements in providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to annually update the Cortese List. The California Department of Toxic Substances Control (CDTSC) 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 CDTSC to identify and track potential hazardous waste sites. Searches of the above resources identified 33 sites (CDTSC 2016) 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 4 Hazardous Site List in the City**. The terms "release" or "occurrence" includes 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 proposed routine maintenance areas are on the "Cortese List."

TABLE 6: Hazardous Site List in the City

SITE/FACILITY NAME	***ESTOR / EPA ID***	***PROGRAM TYPE***	***STATUS***	***Address***
ADELANTE HIGH SCHOOL	31880003	SCHOOL INVESTIGATION	NO FURTHER ACTION	350 ATLANTIC STREET
ADMINSTRATION BUILDING MODERIZATION SITE	31820004	SCHOOL INVESTIGATION	NO ACTION REQUIRED	129 BERRY STREET

SITE/FACILITY NAME	*ESTOR / EPA ID*	*PROGRAM TYPE*	*STATUS*	*Address*
AMERICAN OLEAN TILE COMPANY	31320001	VOLUNTARY CLEANUP	CERTIFIED O&M - LAND USE RESTRICTIONS ONLY	8250 INDUSTRIAL AVENUE
ANTELOPE 5TH HIGH SCHOOL SITE	34010011	SCHOOL INVESTIGATION	NO FURTHER ACTION	ELVERTA ROAD/PALMERSON DRIVE
COMPREHENSIVE HIGH SCHOOL #6	31020006	SCHOOL INVESTIGATION	NO ACTION REQUIRED	SOUTHWEST OF THE INTERSECTION OF HIGH SCHOOL ROAD AND HAYDEN PARKWAY
CONTINENTAL CLEANERS	60000974	EVALUATION	REFER: EPA	1079 SUNRISE AVENUE
DELUXE CLEANERS	31720002	EVALUATION	REFER: RWQCB	404 VERNON STREET
ELEMENTARY SCHOOL (F-70)	31020009	SCHOOL INVESTIGATION	NO ACTION REQUIRED	FIDDYMENT ROAD/BLUE OAKS BOULEVARD
ELEMENTARY SCHOOL (W-75)	60000035	SCHOOL INVESTIGATION	NO ACTION REQUIRED	FIDDYMENT ROAD/DEL WEBB BOULEVARD
ELEMENTARY SCHOOL (W-75)	31020010	SCHOOL INVESTIGATION	NO ACTION REQUIRED	FIDDYMENT ROAD/DEL WEBB BOULEVARD
HEWLETT-PACKARD CO. - ROSEVILLE	71003536	TIERED PERMIT	INACTIVE - NEEDS EVALUATION	8000 FOOTHILLS BOULEVARD
MIDDLE SCHOOL (W-73)	31020012	SCHOOL INVESTIGATION	NO ACTION REQUIRED	FIDDYMENT ROAD/DEL WEBB BOULEVARD
NEC ELECTRONICS, INC.	71002698	TIERED PERMIT	INACTIVE - NEEDS EVALUATION	7501 FOOTHILLS BOULEVARD
NEW ROSEVILLE ES, HP SITE	60000202	SCHOOL INVESTIGATION	NO ACTION REQUIRED	WOODCREEK OAKS BLVD.

SITE/FACILITY NAME	*ESTOR / EPA ID*	*PROGRAM TYPE*	*STATUS*	*Address*
OAKMONT HIGH SCHOOL	31820002	SCHOOL INVESTIGATION	NO ACTION REQUIRED	1710 CIRBY WAY
REX FORTUNE ELEMENTARY SCHOOL	60001012	SCHOOL INVESTIGATION	NO FURTHER ACTION	4865 PFE ROAD
RIOLO VINEYARD SPECIFIC PLAN	60000719	VOLUNTARY CLEANUP	ACTIVE	5280 PFE ROAD
ROSEVILLE HIGH SCHOOL MODERIZATION	31820003	SCHOOL INVESTIGATION	NO ACTION REQUIRED	1 TIGER WAY
ROSEVILLE HIGH SCHOOL/ALVES SITE ADD	31880004	SCHOOL INVESTIGATION	NO ACTION REQUIRED	134 BERRY STREET
ROSEVILLE RAILROAD YARD (J09CA7274)	80000945	MILITARY EVALUATION	NO FURTHER ACTION	
SILVER CREEK	60000292	VOLUNTARY CLEANUP	NO FURTHER ACTION	4300 PFE ROAD AND 9245 WALERGA ROAD (ADJOINING PROPERTIES)
SP-ROSEVILLE: AREA A	31400005	STATE RESPONSE	CERTIFIED O&M - LAND USE RESTRICTIONS ONLY	SP ROSEVILLE RAILYARD
SP-ROSEVILLE: NORTH YARD	31400006	STATE RESPONSE	ACTIVE	SP ROSEVILLE RAILYARD
SP-ROSEVILLE-SOUTH YARD	31400007	STATE RESPONSE	ACTIVE	SP ROSEVILLE RAILYARD
UNION PACIFIC RAILROAD	80001325	CORRECTIVE ACTION	REFER: SMBRP	9451 ATKINSON ST
UNION PACIFIC RAILROAD	CAD000628255	NON-OPERATING	CLOSED	9451 ATKINSON ST
W-70 ELEMENTARY SCHOOL	60002124	SCHOOL INVESTIGATION	NO ACTION REQUIRED	LOT 15 OF WESTPARK-PHASE 4 LARGE LOT

SITE/FACILITY NAME	*ESTOR / EPA ID*	*PROGRAM TYPE*	*STATUS*	*Address*
				SUBDIVISION
WEST PLACER ELEM. SCHOOL/MORGAN CREEK	31010015	SCHOOL INVESTIGATION	NO ACTION REQUIRED	CROWDER LANE/VINEYARD ROAD
WEST PLACER MIDDLE SCHOOL SITE	60000119	SCHOOL INVESTIGATION	NO ACTION REQUIRED	8915 COOK RIOLO ROAD
WHISPER CREEK SUBDIVISION	60000348	VOLUNTARY CLEANUP	NO FURTHER ACTION	3289 PFE ROAD AND OLY LANE
WOODCREEK WEST ELEMENTARY SCHOOL	31010004	SCHOOL INVESTIGATION	NO FURTHER ACTION	PARCEL 70 - WOODCREEK WEST DEVELOPMENT

Source: (CDTSC 2016)

The routine maintenance activities would occur along creeks, basins and drainages. No potential project activities will occur at sites included on a list of hazardous materials sites listed on **Table 4** from EnviroStor; therefore, no impact to a known hazardous location would occur (CDTSC 2016). ***No Impact*** would result from the Proposed Project. No mitigation is required.

e,f. **No Impact**. The routine maintenance projects are not located near an airport or airstrip. Since the Proposed 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 Proposed Project area, users of the Proposed Project would not be exposed to hazards due to over flight aircraft (FAA 2016). Thus, no significant impact would occur, and no mitigation would be necessary. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

g. **No Impact**. The Proposed Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the ***No Impact*** would result from development of the Proposed Project. No mitigation is required.

h. **No Impact**. The City is not located in an area identified by the California Department of Forestry and Fire Protection as a fire hazard region (CAL FIRE 2008). The proposed routine maintenance activities do 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 Impact*** would result from proposed maintenance activities. No mitigation is required.

3.9 Hydrology and Water Quality

	Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in 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 that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
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 that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
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 that would result in flooding onsite or offsite?	☐	☐	☒	☐
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f.	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h.	Place structures within a 100-year flood hazard area that would impede or redirect flood flows?	☐	☐	☐	☒

i.	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?	☐	☐	☐	☒
j.	Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion of Checklist Answers:

a. **Less Than Significant Impact**. The City has adopted the West Placer Stormwater Quality Design Manual for all new and redeveloped projects within the City. However, it is anticipated that the proposed routine maintenance activities would not be required to comply with the West Placer Stormwater Quality Design Manual because activities would either be excluded by the scale of the maintenance (creating less than 2,500 square feet of impervious surface) or exempt (routine maintenance and repair of facilities within the existing footprint and emergency activities required to protect public health and safety) (West Placer Steering Committee and Technical Advisory Committee 2016). The Proposed Project would be required to comply with the City's Phase II MS4 NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit, the City's Design and Construction Standards, the City's Urban Stormwater Quality and Discharge Control Ordinance, and the conditions of CDFW RMA.

The City will 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. Therefore, the Proposed Project would result in ***Less Than Significant Impact***. No mitigation is required.

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. Therefore, the Proposed Project would result in a ***No Impact***. No mitigation is required.

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 Proposed 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. Further, as discussed in response a) above, the Proposed Project would be required to comply with the City's Phase II MS4 NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit, the City's Design and Construction Standards, the City's Urban Stormwater Quality and Discharge Control Ordinance, and the conditions of CDFW RMA, which require erosion control BMPs to be implemented. The Proposed Project would result in a ***Less Than Significant Impact***. No mitigation is required.

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 Proposed Project would be required to comply with the Phase II MS4 NPDES permit, the USACE Section 404 Nationwide

Permit 3 Maintenance permit, City's Design and Construction Standards, the City's Urban Stormwater Quality and Discharge Control Ordinance, and the conditions of CDFW RMA. Impacts to flooding are considered to a ***Less Than Significant Impact***. No mitigation is required.

e. **No Impact**. The Proposed Project activities will not create or contribute runoff water, rather through routine channel maintenance activities the existing and planned storm water drainage systems will be able to accommodate planned and future runoff water. The Proposed Project will not result in additional polluted runoff. Therefore, the Proposed Project would result in a ***No Impact***. No mitigation is required.

f. **Less Than Significant Impact**. The routine channel maintenance activities would be required to comply with the City's Phase II MS4 NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit, the City's Design and Construction Standards, the City's Urban Stormwater Quality and Discharge Control Ordinance, and the conditions of CDFW RMA. By complying with the conditions specified in these documents, routine maintenance impacts to water quality are considered a ***Less Than Significant Impact***. No mitigation is required.

g. **No Impact.** The Proposed Project alignment is located within a FEMA-designated 100-year Flood Zones. However, as a routine maintenance Proposed Project to existing creeks, channels and basins, the Proposed Project does not involve housing or exposure of habitable structures to the 100-year flood event. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

h. **No Impact**. Routine maintenance activities do not involve the construction of new structures. Maintenance of existing erosion control and new minor erosion control may temporarily impede or redirect water flow during the maintenance activity. However, any materials used to temporarily divert flows would be removed upon completion of the maintenance activity. The Proposed Project would be required to comply with CDFW RMA conditions, the City NPDES permit, the USACE Section 404 Nationwide 3 Maintenance permit, the City's Design and Construction Standards, the City's Urban Stormwater Quality and Discharge Control Ordinance, and the conditions of CDFW RMA. Therefore, the Proposed Project would result in a ***No Impact***. No mitigation is required.

i. **No Impact**. Pursuant to the City's Safety Element of the General Plan, the City does not have any dams or levees in the project area but the City is within a designated flood inundation area due to the proximity to the Folsom Lake Dam (City of Roseville 2010a). However, 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. No work on dams or levees will occur. Therefore, the Proposed Project would result in a ***No Impact***. No mitigation is required.

j. **No Impact**. The Proposed Project site is not located near an ocean coast or enclosed body of water that could produce a seiche or tsunami, nor is the site located near areas having steep slopes that would create mudflows. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

Avoidance and Minimization Measures

No mitigation is proposed or required; however, biological resources avoidance and/or minimization measures in Section 2.7 (which also addresses water quality impacts) would be incorporated to further minimize potential impacts.

3.10 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
d. Result in land use/operational conflicts between existing and proposed on-site or off-site land uses?	☐	☐	☐	☒

Discussion of Checklist Answers:

a. **No Impact**. All activities would occur within existing drainage ways and facilities. Routine channel maintenance would not physically disrupt or divide an established community. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

b. **No Impact**. As a routine maintenance and channel restoration project, the Proposed Project would not affect the roadway designation or change the zoning ordinance within the project areas. Therefore, there would be ***No Impact*** due to a conflict with a land use policy. No mitigation is required.

c. **No Impact**. There are no habitat conservation plans or natural community conservation plans within the City of Roseville; therefore, the project would not conflict with any existing habitat conservation plan or natural community's conservation plan. Therefore ***No Impact*** would result from the Proposed Project. No mitigation is required.

d. **No Impact**. As a routine maintenance and channel restoration project, the Proposed Project would remain consistent with existing uses and surrounding land uses and would not have the potential to result in land use or operational conflicts on- or off-site. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

3.11 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion of Checklist Answers:

a,b. **No Impact**. Pursuant to the Open Space and Conservation and Element of the City's General Plan, only a limited amount of mineral resources, consisting of sand and gravel, occur within the City. The City has no current or future plans for mineral extraction operations. Therefore, the Proposed Project would have ***No Impact*** on mineral resources. No mitigation is required.

3.12 Noise

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project vicinity to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project vicinity to excessive noise levels?	☐	☐	☐	☒

Discussion of Checklist Answers:

a. **Less Than Significant Impact**. 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 channel 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 5** below, ranging from 74 to 90 dB at a distance of 50 feet.

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

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

Pursuant to the City's Noise Element of the General Plan, Table IX-3: Performance Standards for Non-transportation Noise Sources or Projects Affected by Non-transportation Noise Sources, fixed noise sources should not exceed 50 dBA $_{Leq}$ and 70 dBA $_{Lmax}$ during daytime hours (7:00 A.M. to 10:00 P.M.) and 45 dBA $_{Leq}$ and 65 dBA $_{Lmax}$ during nighttime hours (10:00 P.M. to 7:00 A.M.) as measured at the property line of noise sensitive land uses; however, pursuant to the City's Municipal Code, Noise Regulation Ordinance Chapter 9.24, City operations and activities are not subject to the provisions of Noise Regulation Ordinance. When feasible, avoidance and minimization measures discussed in Section 2.7 will be implemented. All routine channel maintenance activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Construction-related noise would result in a ***Less Than Significant Impact.*** No mitigation is required.

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. Construction-related noise would therefore result in a ***Less Than Significant Impact.*** No mitigation is required

c. **No Impact**. The Proposed Project would likely result in temporary increases in noise from use of small construction equipment for the duration of the maintenance activity. However, the Proposed 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. Therefore, the Proposed Project would have ***No Impact*** on the noise environment. No mitigation is required.

d. **Less Than Significant Impact.** 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 and activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Avoidance and minimization measures discussed in Section 2.7 would reduce the noise impacts to less-than-significant. Temporary or periodic increases in ambient noise levels would be a ***Less Than Significant Impact*****.** No mitigation is required.

e, f. **No Impact**. No Impact. The Proposed Project site is not located near an existing airport and is not within an area covered by an existing airport land use plan. Therefore, there would be ***No Impact***. No mitigation is required

Avoidance and Minimization Measures

No mitigation is proposed or required; however, noise avoidance and/or minimization measures in Section 2.7 would be implemented to further minimize potential impacts.

3.13 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion of Checklist Answers:

a-c. **No Impact**. The Proposed Project will 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. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

3.14 Public Services

Would the project:		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:					
a.	Fire protection?	☐	☐	☐	☒
b.	Police protection?	☐	☐	☐	☒
c.	Schools?	☐	☐	☐	☒
d.	Parks?	☐	☐	☐	☒
e.	Other public facilities?	☐	☐	☐	☒

Discussion of Checklist Answers:

a-e. **No Impact**. The Proposed Project involves maintenance of existing 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 to construction of new public facilities with respect to fire protection, police protection, schools, parks, or other public facilities. Therefore, ***No Impact*** would result from development of the Proposed Project. No mitigation is required.

3.15 Recreation

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion of Checklist Answers:

a,b. **No Impact**. The Proposed Project will not affect recreation or recreation facilities in the area because the Proposed Project involve routine 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. ***No Impact*** would result from the Proposed Project. No mitigation is required.

3.16 Transportation/Traffic

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e. Result in inadequate emergency access?	☐	☐	☐	☒
f. Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion of Checklist Answers:

a,b. **No Impact**. Routine maintenance activities would not affect the City's plans, ordinances, policies or measures for the performance of the circulation system, nor would it conflict with the City's management of congestion. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

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, there would be ***No Impact***. No mitigation is required.

d. **Less Than Significant Impact**. The design features associated with the Proposed Project would not increase hazards, considering the routine channel maintenance activities will not result in the development of new roadways. Therefore, there would be ***No Impact***. No mitigation is required.

e. **No Impact**. Routine channel maintenance activities would not affect emergency vehicle access. There would be ***No Impact***. No mitigation is required.

f. **No Impact**. Routine channel maintenance activities would not affect the City's overall transportation service goals and there would be no conflicts with adopted policies, plans, or programs supporting alternative transportation. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

3.17 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion of Checklist Answers:

a. **No Impact.** The Proposed Project is restricted to routine maintenance activities; therefore, the Proposed Project would not involve wastewater treatment requirements. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

b. **No Impact.** The Proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

c. **Less Than Significant Impact.** Routine channel maintenance activities would result in the maintenance of drainage channels and ultimately would improve storm water drainage within the City. No new storm water drainage facilities would be required as a result of routine channel maintenance activities. Therefore, ***Less Than Significant Impact*** would result from the Proposed Project. No mitigation is required.

d. **No Impact**. The Proposed Project would not increase water supply demand. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

e. **No Impact**. The Proposed Project would not affect wastewater treatment. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

f. **Less Than Significant Impact.** Although the Proposed 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. Therefore, ***Less Than Significant Impact*** would result from routine maintenance. No mitigation is required.

g. **No Impact**. The Proposed Project would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, ***No Impact*** would result from the Proposed Project. No mitigation is required.

3.18 Mandatory Findings of Significance

	Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 history or prehistory?	☐	☒	☐	☐
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 projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion of Checklist Answers:

a. **Less Than Significant With Mitigation Incorporated**. As discussed in this study, the Proposed Project could result in impacts to biological and cultural resources 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. Impacts related to routine maintenance of stream channels are considered ***Less Than Significant With Mitigation Incorporated***.

b. **Less Than Significant Impact**. The Proposed Project does not directly or indirectly contribute to cumulative impacts based on analysis provided within this study.

The Proposed Project would not induce population growth or result in the development of new housing or employment-generating uses; therefore, it would not combine with cumulative development to create a cumulative effect related to increased demand for services or utilities, the expansion of which could result in significant environmental effects. Routine maintenance will result in a ***Less Than Significant Impact***.

c. Less Than Significant Impact. As discussed in this study, the Proposed Project could result in impacts on human beings indirectly due to noise impacts. Avoidance and minimization measures included in this study would reduce impacts to less-than-significant levels. Impacts are considered ***Less Than Significant.*** No mitigation is required.

4.0 REPORT PREPARERS

Dokken Engineering

Namat Hosseinion, Environmental Manager
Sarah Holm, Senior Biologist/Environmental Planner
Angela Scudiere, Biologist/Environmental Planner
Scott Salembier, Biologist/Environmental Planner
Amy Dunay, Archeologist
Brian Marks, Archeologist

City of Roseville

Mark Morse
Environmental Coordinator
Roseville City Manager's Office
Development and Operations Division
311 Vernon Street
Roseville CA 95678
Phone: (916) 774-5334

5.0 REFERENCES

American Ornithologists' Union. 1983. Checklist of North American Birds. 6th ed. Lawrence, KS: Allen Press.

Barr, C. B. 1991. The Distribution, Habitat, and Status of the Valley Elderberry Longhorn Beetle: Desmocerus californicus dimorphus. Sacramento, CA: U.S. Fish and Wildlife Service.

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

Breathe California of Sacramento-Emigrant Trails. 2007. Our Changing Air: An Overview of the Risks to Placer County Residents; A report to Placer County Health and Human Services in cooperation with the Placer County Air Pollution Control District. Available at: <http://www.trpa.org/documents/reisc/5_Comment%20References/LTSLT_FOWS_TASC_references/Air%20Quality%20Data%20and%20Comparisons/OurChangingAir032307%20Placer%20Cnty.%20pdf.pdf> (accessed 6/29/2016).

CAL FIRE. 2008. California Fire Hazard Severity Zone Map Update Project: Placer County FHSZ Map. <http://www.fire.ca.gov/fire_prevention/fhsz_maps_placer> (accessed 7/14/2016).

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 7/14/2016).

California Department of Fish and Game (CDFG). 2012. *Staff Report on Burrowing Owl Mitigation*. State of California. Natural Resources Agency. Department of Fish and Wildlife. March 7, 2012.

CDFG. 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California. Available at: <https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html> (accessed 07/22/16).

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html> (accessed 09/22/14).

California Department of Toxic Substances Control (CDTSC). 2016. *Envirostor Data Base*. Available at: <www.envirostor.dtsc.ca.gov> (accessed 07/15/2016).

California Native Plant Society (CNPS). 2016. *Inventory of Rare, Threatened and Endangered Plants of California* (online edition) Sacramento, CA. Available online at: <www.rareplants.cnps.org>. (Accessed 08/08/2016).

Caltrans. 2011. California Scenic Highway Mapping System: Sacramento County. Available at: <http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/> (accessed 6/29/2016).

CARB. 2013. *California Infrastructure State Implementation Plan*. Report released December 23, 2013. Available online at: <http://www.arb.ca.gov/planning/sip/sip.html> (accessed 08/15/2016).

CARB. 2014. California Air Basin Map. Available at <http://www.arb.ca.gov/ei/maps/statemap/abmap.htm> (accessed 6/29/2016).

CARB. 2016a. Area Designations Maps/State and National. Available at <http://www.arb.ca.gov/desig/adm/adm.htm> (accessed 6/29/2016).

CARB. 2016b. California Greenhouse Gas Emission Inventory - 2016 Edition. Available at <http://www.arb.ca.gov/cc/inventory/data/data.htm> (accessed 7/15/2016).

CDC. 2010a. Alquist-Priolo Earthquake Fault Zones: Table 4. Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of January 2010. California Geological Survey. Available at: <http://www.conservation.ca.gov/cgs/rghm/ap/Pages/affected.aspx> (accessed 7/14/2016).

CDC. 2010b. Fault Activity Map of California (2010). California Geologic Survey. Available at: <http://www.conservation.ca.gov/cgs/cgs_history/Pages/2010_faultmap.aspx> (accessed

7/14/2016).

CDC. 2014. Farmland Mapping and Monitoring Program: Placer County. Available at: <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Placer.aspx> (accessed 7/14/2016).

CDC. 2015. California Landslide Inventory and Deep Landslide Susceptibility Map. Available at: <http://maps.conservation.ca.gov/cgs/lsi/> (accessed 7/14/2016).

City of Roseville. 2003. Resolution #03-546: A Resolution of the City of Roseville Establishing an In-Lieu Mitigation Fee for Tree Replacement. Available at: <http://www.roseville.ca.us/gov/development_services/_planning/applications_forms_n_handouts/tree_permits.asp> (accessed 7/21/2016).

City of Roseville. 2010a. As amended 2015. City of Roseville General Plan 2025. Available at: <http://www.roseville.ca.us/gov/development_services/_planning/general_plan_n_development_guidelines.asp> (accessed 6/29/2016).

City of Roseville. 2010b. City's Design and Construction Standards: 2016 Design Standards. Available at: <http://www.roseville.ca.us/gov/development_services/engineering_land_development/design_construction_standards.asp> (accessed 7/20/2016).

City of Roseville. 2010c. Urban Stormwater Quality and Discharge Control Ordinance: Ordinance No. 4822. Available at: <https://www.roseville.ca.us/gov/development_services/engineering/stormwater_design_inspection/post_development_run_off_control.asp> (accessed 7/20/2016).

City of Roseville. 2016. Roseville Municipal Code*:* Chapter 19.66 Tree Preservation. Available at: <http://qcode.us/codes/roseville/> (accessed 7/21/2016).

CNDDB. 2016. California Department of Fish and Wildlife, *California Natural Diversity Data Base* (CNDDB) GIS database, Sacramento, CA. (Database Updated July 2016).

EIP Associates. 1997. *North Roseville Specific Plan Draft Environmental Impact Report*. Prepared for the City of Roseville Planning Department. Prepared by EIP Associates. May 1997.

England, A. S., M. J. Bechard, and C. S. Houston. 1997. Swainson's Hawk (Buteo swainsoni). In A. Poole and F. Gill (eds.), The Birds of North America, No. 265. Philadelphia, PA: The Academy of Natural Sciences and Washington, DC: The American Ornithologists' Union.

FAA. 2016. Airport Data & Contact Information. Available at: <http://www.faa.gov/airports/airport_safety/airportdata_5010/> (accessed 7/15/2016).

Garcia and Associates. 2007. Paleontological Survey and Analysis For the Pacific Gas and Electric Company (PG&E) Line 406 and 407 Expansion Project in Yolo, Sutter, Sacramento and Placer Counties California. Available at: <www.slc.**ca**.gov/Info/Reports/PG_E_Line_406/Appendices/AppF4.pdf> (accessed 7/241/2016).

Intergovernmental Panel on Climate Change (IPCC). 2013. Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth 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/report/ar5/wg1/> (accessed 7/15/2016).

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 11/18/14).

National Marine Fisheries Service (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.nmfs.noaa.gov/pr/pdfs/species/sacramentoriver_winterrunchinook_5yearreview.pdf> (accessed 8/1/2016).

NMFS. 2013. Steelhead Trout (*Oncorhynchus mykiss*). NOAA Fisheries Office of Protected Resources. Available at: <http://www.nmfs.noaa.gov/pr/species/fish/steelheadtrout.htm> (accessed 8/11/14).

Placer County. 2014. Memorandum of Understanding With Cities of Roseville, Auburn and Town of Loomis For Funding Preparation of a Low Impact Development Standards Manual. Available at: <http://www.placer.ca.gov/upload/bos/cob/documents/sumarchv/2014/140617A/21d.pdf> (accessed 7/20/2016).

Placer County Air Pollution Control District (PCAPCD). 2012. *CEQA Air Quality Handbook*. October 2012. Available online at: <http://www.placer.ca.gov/departments/air/landuseceqa> (accessed 08/15/2016).

Placer County APCD. 2015. Ozone Emergency Episode Plan. Available at <http://www.placer.ca.gov/~/media/apc/documents/planning/board%20approved%20pcapcdozoneemergencyepisodeplan.pdf?la=en> (accessed 6/29/2016).

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. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles*. 3rd edition. Boston: Houghton Mifflin Co.

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2016. *Web Soil Survey of Roseville, Placer County*. U.S. Department of Agriculture.

U.S. Fish and Wildlife Service (USFWS). 1980. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Final Rule. 45 FR 52803 52807. Available at: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=I01L> (accessed 9/10/2015).

UC Davis. 2014. Tricolored Blackbird Portal. Information Center for the Environment, University of California, Davis. Available at: <http://tricolor.ice.ucdavis.edu/> (accessed 08/11/2016).

USFWS. 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Sacramento, CA; Available at: <http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/velb_conservation.pdf> (accessed 9/10/2015).

USFWS. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*): <https://ecos.fws.gov/ecp0/profile/speciesProfile.action?spcode=D02D> (accessed 9/08/2016).

USFWS. 2006. Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) 5-Year Review: Summary and Evaluation. Sacramento, CA; Available at: <http://ecos.fws.gov/docs/five_year_review/doc779.pdf> (accessed 9/10/2015).

USFWS. 2007a. 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 08/01/2016).

USFWS. 2007b. 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 09/29/14).

USFWS. 2012. Conservancy Fairy Shrimp (Branchinecta conservatio) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office. Available at: <http://ecos.fws.gov/docs/five_year_review/doc4012.pdf> (accessed 08/01/2016).

USFWS. 2014. Federal Register Vol. 79, No. 180. Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife; Available

at: <http://www.gpo.gov/fdsys/pkg/FR-2014-09-17/pdf/2014-21585.pdf> (accessed 9/10/2015).

USFWS. 2016a. Information for Planning and Conservation (IPaC). Available at: <http://ecos.fws.gov/ipac/> (accessed 09/10/2015).

USFWS. 2016b. U.S. Fish & Wildlife Service Critical Habitat Portal; Available at: <http://ecos.fws.gov/crithab/> (accessed 01/06/15).

Wagner, D. L., Jennings, C. W., Bedrossian, T. L., Bortugno, E. J. 1981. Geologic Map of the Sacramento Quadrangle, California, 1:250,000. California Department of Conservation. Available at: <http://www.quake.ca.gov/gmaps/RGM/sacramento/sacramento.html> (accessed 7/21/2016).

West Placer Steering Committee and Technical Advisory Committee. 2016. West Placer Storm Water Quality Design Manual. Available at: <https://www.roseville.ca.us/gov/development_services/engineering/stormwater_design_inspection/post_development_run_off_control.asp?grpxver=mob> (accessed 7/20/2016).

Zeiner, D.C. *et al.* 1990. *California's Wildlife: California Wildlife Habitat Relationships*. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Game. Available online at: <http://www.dfg.ca.gov/whdab/html/cawildlife.html> (accessed 08/20/2014).

Appendix A — Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
Air Quality – Avoidance and Minimization Measures					
Maintenance activities will follow the Placer County Air Pollution Control District rules and implement all appropriate air quality Best Management Practices.	During Maintenance	City of Roseville			
Biological Resources - Avoidance and Minimization Measures					
If wildlife is encountered during maintenance activities, work will stop within the area and the animal will be allowed to leave the project area un-harassed.	During Maintenance	City of Roseville			
Plastic mono-filament netting (erosion control matting) or similar material that could trap wildlife will not be used. Acceptable substitutes include jute, coconut coir matting or tackified hydroseeding compounds.	During Maintenance	City of Roseville			
Soil disturbance within the bed, bank and channel of Dry Creek, Miners Ravine, and Secret Ravine will be limited to the minimum area necessary to complete maintenance activities. Existing vegetation will be protected where feasible and disturbed/exposed soils will be stabilized to prevent erosion and sedimentation	During Maintenance	City of Roseville			
The City will limit wetland and riparian vegetation removal to the greatest extent feasible to complete maintenance activities. Vegetation thinning/clearing to ensure hydraulic capacity would be limited to only that necessary to ensure consistency with the City's flood model (i.e., roughness coefficient).	During Maintenance	City of Roseville			
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 the listed 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	During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
adjacent to the stream must be positioned over drip pans.					
Prior to arrival at the project site, the City must clean all equipment that may contain invasive plants and/or seeds to reduce the spreading of noxious weeds.	During Maintenance	City of Roseville			
When feasible, stumps of removed trees will be left intact to allow the tree to stump sprout and quickly regenerate the habitat.	During Maintenance	City of Roseville			
Temporarily impacted riparian and wetland habitat will be regraded to pre-maintenance contours (if applicable). Site restoration with container plants or a native seed mix may be required if vegetation removal included soil grubbing to quickly regenerate mature vegetation.	Post Maintenance	City of Roseville			
The City will comply with the City of Roseville's Native Oak Tree Preservation Ordinance (Roseville Municipal Code Chapter 19.66): - Prior to encroaching within the protected zone of a native oak equal or greater than 6 inches DBH, the City would implement provisions of the Native Oak Tree Ordinance to compensate for the removal of protected oaks by planting new trees or by payment of an in-lieu fee pursuant to Resolution #03-546. - The amount of encroachment within the protected zone and tree removal of City protected oaks will be minimized to the greatest extent practicable.	During Maintenance	City of Roseville			
Noise - Avoidance and Minimization Measures					
When feasible, project activities will occur between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday. All construction equipment shall be fitted with factory installed muffling devices and all construction equipment shall be maintained in good working order.	During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
Biological Resources - Mitigation Measures					
BIO-1: Prior to beginning any maintenance work under the RMA, 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. The City shall conduct an education program for all persons employed or otherwise working on the project site prior to performing any work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology of the habitats and species that may occur during routine maintenance. The Designated Biologist shall also include as part of the education program information about the distribution and habitat needs of any special-status species that may be present, legal protections for those species, penalties for violations and project-specific protective measures. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the program and understand all protection measures.	Prior to Maintenance	City of Roseville			
BIO-2: The City shall not conduct routine maintenance activities within vernal pools or playas that seasonally remain inundated for periods of 2 months or longer. Temporary impact areas, including access routes and staging areas, will also be positioned outside of vernal pools and playas. If maintenance work or associated temporary impact areas are close to one of these habitats (<20 feet), the boundary of the work area in proximity to the sensitive habitat must be marked with ESA high visibility orange fencing to prevent maintenance equipment or personnel from entering the protected habitat.	During Maintenance	City of Roseville			
BIO-3: Prior to routine maintenance within rare plant habitat,	Prior to Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
pre-maintenance rare plant surveys may be required. If it is determined that there is a potential for rare plants to occur, maintenance areas would be surveyed for rare plants by a City appointed biologist during the appropriate bloom period for Boggs Lake hedge-hyssop (April-August), Sanford's arrowhead (May – October) and legenere (May – June). If additional species of rare plant are discovered within the City, surveys may be required during their appropriate bloom period as well. Survey results will be submitted to CDFW as an attachment to the VRFs. Rare plant populations discovered onsite will be protected in place with orange ESA fencing. If rare plant populations cannot be protected in place, the City will coordinate with CDFW. It is anticipated that coordination will result in either rare plant relocation or compensatory mitigation.					
BIO-4: The time period for completing the work within the wetted channel of Dry Creek, Miner's Ravine, and Secret Ravine shall be restricted to periods of low stream flow and dry weather and shall be confined to the period of May 1st to October 15th. Construction activities shall be timed with awareness of precipitation forecasts and likely increases in stream flow. Construction activities within the stream zone shall cease until all reasonable erosion control measures, inside and outside of the stream zone, have been implemented prior to all storm events. Revegetation, restoration and erosion control work is not confined to this time period. In addition, work within the bed, bank or channel of any stream shall be restricted to periods of dry weather (with less than a 30% chance of rain). All erosion control measures shall be initiated prior to all storm events. Revegetation, restoration and erosion control work is not confined to this work period. The City shall monitor the National Weather Service (NWS) 72-hr forecast to monitor forecasted rain events. If emergency maintenance is required, seasonal limitations do not apply. Emergency maintenance is defined as immediate emergency work necessary to protect life or property, or to restore public service facilities necessary to maintain service. The City will notify CDFW within 14 days of beginning	During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
maintenance work.					
BIO-5: If possible, vegetation removal and ground disturbance should occur outside the breeding season for all bird species (September 1st – January 31st). If vegetation removal or ground disturbance is to take place during the nesting season (February 1st – August 31st), a pre-construction nesting bird survey must be conducted within 3 days prior to vegetation removal or ground disturbance. The nesting survey area will include the anticipated work area plus an approximate 500 foot buffer. All areas within 100 feet will be surveyed for nesting birds. All tall trees and structures potentially providing nesting habitat for raptors will be surveyed with high powered binoculars or a spotting scope. If a pre-construction survey is not feasible, then a full time biological monitor may substitute for the preconstruction survey. The biological monitor will work slightly in advance of maintenance crews searching for nests and monitoring bird activity for stressful behaviors that could indicate a nearby nest. The biological monitor must remain onsite for the duration of work and have the power to halt maintenance work if evidence of nesting birds is discovered. A 100-foot no disturbance buffer will be established around active bird nests protected by the Migratory Bird Treaty Act (MBTA) and Fish and Game Code 3503 and 3503.5. A reduced song bird buffer may be appropriate if agreed upon on a case by case basis by CDFW. Should an active raptor nest be found, an increased buffer distance may be appropriate. Raptor buffer distances will be approximately 300 feet but final buffer distances will be determined through consultation with CDFW. Should maintenance activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no disturbance buffer will be increased such that activities are far enough from the nest to stop this agitated behavior. The no disturbance buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.	Prior to/During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
If there is a break in construction activity of more than 2 weeks, subsequent surveys should be conducted.					
BIO-6: If maintenance activities are planned in suitable burrowing owl habitat, qualified biologists approved by CDFW will conduct a habitat assessment level survey for burrowing owl within 1-2 weeks of the start of construction. If burrowing owls are not detected, no further mitigation will be required. If burrowing owls are observed within 500 feet of the maintenance area, the City will develop an Impact Assessment consistent with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) and submit the Impact Assessment to CDFW prior to maintenance work. The Final avoidance and mitigation measures will be determined in coordination with CDFW but the Impact Assessment will at a minimum include the following mitigation measure: Occupied burrows will not be disturbed during the breeding season (February 1st to August 31st) unless a qualified biologist verifies through non-invasive methods that either: 1) the birds have not begun egg-laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. If avoidance of active nests is preferred, the biologist will consult with CDFW to determine appropriate no-work buffer widths. The City will not disturb identified burrowing owl burrows until the qualified biologist verifies it has been cleared and approved by CDFW.	Prior to/During Maintenance	City of Roseville			
BIO-7: The City will avoid impacts to elderberry shrubs in a manner consistent with the *Biological Opinion on Service Approval of the City of Roseville Open Space Preserve Overarching Management Plan* (BO # 81420-2008-F-1958-3). If maintenance activities cannot avoid impacts to elderberry shrubs, and the impact isn't covered under the biological opinion prepared for the City's Open Space Preserve Overarching Management Plan, the City must initiate Consultation with the USFWS. The City will mitigate for impacts to the species consistent with the existing USFWS BO, or as may be determined via a Section 10 consultation which could include relocating elderberry shrub(s) to a USFWS approved	Prior to/During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
mitigation bank and purchasing mitigation credits according to Table 1 in the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999).					
BIO-8: Swallow nest removal should occur during the non-nesting season (September 1st – January 31st) after the young of the year have fledged and no nesting activity is observed. Swallow nests will not be removed until they have been inspected by a qualified biologist and determined to be inactive. During the nesting season, the City may discourage swallow nest construction by removing partially completed nests that are less than 1/3rd complete. After a nest is more than 1/3rd complete, it cannot be disturbed until a qualified biologist has determined that all nestlings have fledged and are foraging independently.	During Maintenance	City of Roseville			
BIO-9: Structures will be assessed for bat occupation prior to initiation of work. The City must coordinate with CDFW prior to conducting maintenance work on bridges or structures occupied by bats. If a structure occupied by bats must be maintained, bats will be excluded prior to the pupping season (April 15th – August 31st). Bat exclusion must be conducted under the supervision of a qualified bat biologist experienced in bat exclusion. If no alternative roosting habitat (e.g. other bridges or structures) is available within 1000 feet of the maintenance area, temporary bat accommodations may be required.	Prior to Maintenance	City of Roseville			
BIO-10: The City will create or purchase compensatory mitigation for permanent impacts to jurisdictional features. Mitigation will be created by the City within City owned open space or purchased from a CDFW approved mitigation bank at a minimum 3:1 ratio (or a combination of restoration and mitigation credits). Permanent impacts are defined as actions that result in a permanent modification to wetlands, stream channels, or riparian habitats (e.g. new impervious cover, rock lining, placement of fill). Mitigation will be calculated based on the area of impact. Mitigation sites will be monitored for a period of 5 years. A	Post Maintenance	City of Roseville			

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
mitigation site will be deemed successful if it meets success standards for plant survivability and non-native cover. If success criteria are not met, corrective actions including supplemental planting, watering, or weeding may be required. Success criteria will be determined in consultation with CDFW during the preparation of a Habitat Mitigation and Monitoring Plan (HMMP) that will be prepared and submitted to CDFW for review within 180 days following the adoption of the RMA. If maintenance activities result in a permanent impact requiring mitigation before the HMMP is approved by CDFW, the City will purchase compensatory mitigation from a CDFW approved mitigation bank at a 3:1 ratio.					
Cultural Resources – Mitigation Measures					
CR-1: In routine maintenance areas classified as Category A, Below Ground Maintenance Activities are permissible only if first surveyed and determined to be "clear" by an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology. Above Ground Maintenance activities are allowed.	Prior to/During Maintenance	City of Roseville			
CR-2: If previously unidentified archaeological resources and/or tribal cultural resources are unearthed during construction, all ground disturbing activities shall be immediately suspended in that area and within 100 feet of the discovery. A qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology, the City of Roseville, and, if the discovery involves Native American cultural resources, the affected Native American tribes (as determined by the Native American Heritage Commission [NAHC]), shall assess the significance of the find and determine appropriate mitigation, if necessary. Additional archaeological survey will be needed if project limits are extended beyond the present routine maintenance area limits. If adverse impacts to tribal cultural resources, unique Native American archaeological resources, or other Native American cultural resources occur during the project, the City of Roseville shall notify the Native American Heritage Commission	During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
who will contact the affected Native American tribe for consultation regarding mitigation, pursuant to Public Resources Code section 21084.3(a) and (b) and CEQA Guidelines 15370.					
CR-3: Previously Unidentified Paleontological Resources The City shall ensure crews are informed of the following information during maintenance worker environmental training: - If substantial fossil remains (particularly vertebrate remains) are discovered during earth-disturbing activities on the project site, activities will stop immediately until a state-registered Professional Geologist or Qualified Professional Paleontologist can assess the nature and importance of the find and a Qualified Professional Paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The City will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.	Prior to/During Maintenance	City of Roseville			
CR- 4: Inadvertent Discovery of Human Remains The City shall ensure construction specifications include the following in the grading notes: - If human remains are discovered during any phase of construction, including disarticulated or cremated remains, the construction contractor shall immediately cease all ground-disturbing activities within 100 feet of the remains and notify the City Environmental Coordinator. - In accordance with California State Health and Safety Code Section 7050.5, no further disturbance shall occur until the following steps have been completed: o The County Coroner has made the necessary findings as to origin and disposition pursuant to PRC § 5097.98. If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours,	During Maintenance	City of Roseville			

Mitigation Monitoring and Reporting Program

for the City of Roseville Routine Maintenance of Stream Channels and Drainage Facilities project

Minimization/Mitigation Measure	Timing/ Reporting Milestone	Reporting/ Responsible Party*	Verification of Compliance		
			Name/ Initials	Date	Remarks (Optional)
and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. It is further recommended that a professional archaeologist with Native American burial experience conduct a field investigation of the specific site and consult with the Most Likely Descendant (MLD), if any, identified by the NAHC. As necessary and appropriate, a professional archaeologist may provide technical assistance to the MLD, including but not limited to, the excavation and removal of the human remains.					

Appendix B — Biological Database Search Results

USFWS – IpAC Species List

CNDDB GIS Database Search (Data Updated July 2016)

CNPS species lists for the USGS 7 ½ minute quadrangles of Citrus Heights, Folsom, Rocklin, and Roseville

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2016-SLI-1742 June 28, 2016
Event Code: 08ESMF00-2016-E-03785
Project Name: Roseville Routine Maintenance of Creeks and Channels

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2)

of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

Official Species List

Provided by:

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

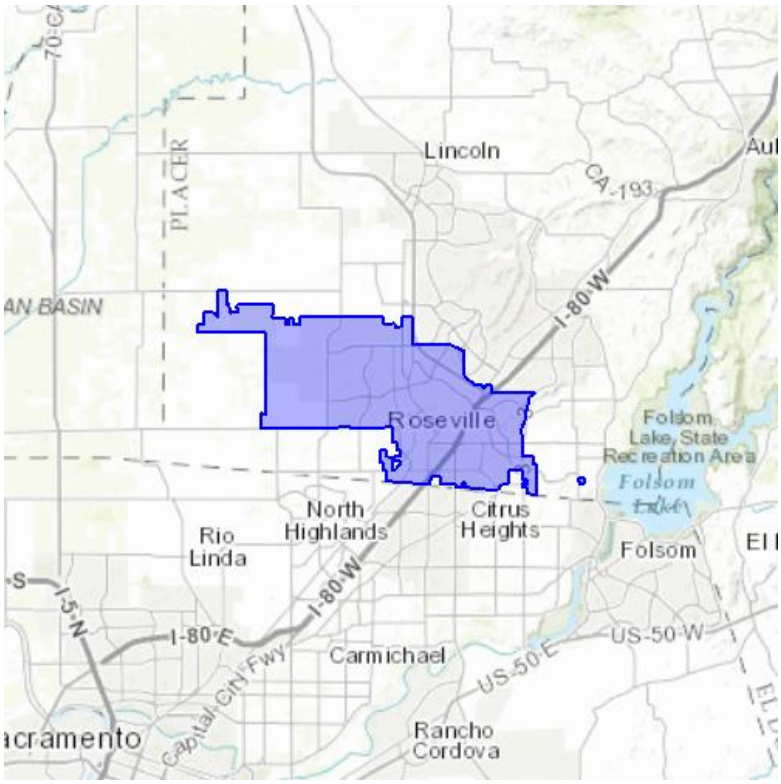
Consultation Code: 08ESMF00-2016-SLI-1742
Event Code: 08ESMF00-2016-E-03785

Project Type: LAND - DRAINAGE

Project Name: Roseville Routine Maintenance of Creeks and Channels

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Placer, CA | Sacramento, CA

Endangered Species Act Species List

There are a total of 10 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
California red-legged frog *(Rana draytonii)* Population: Entire	Threatened	Final designated	
California tiger Salamander *(Ambystoma californiense)* Population: U.S.A. (Central CA DPS)	Threatened	Final designated	
Crustaceans			
Conservancy fairy shrimp *(Branchinecta conservatio)* Population: Entire	Endangered	Final designated	
Vernal Pool fairy shrimp *(Branchinecta lynchi)* Population: Entire	Threatened	Final designated	
Vernal Pool tadpole shrimp *(Lepidurus packardi)* Population: Entire	Endangered	Final designated	
Fishes			
Delta smelt *(Hypomesus*	Threatened	Final designated	

transpacificus) Population: Entire			
steelhead *(Oncorhynchus (=salmo) mykiss)* Population: Northern California DPS	Threatened	Final designated	
Flowering Plants			
Sacramento Orcutt grass *(Orcuttia viscida)*	Endangered	Final designated	
Insects			
Valley Elderberry Longhorn beetle *(Desmocerus californicus dimorphus)* Population: Entire	Threatened	Final designated	
Reptiles			
Giant Garter snake *(Thamnophis gigas)* Population: Entire	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Roseville City Boundary

CNDDB Occurrences

- Boggs Lake hedge-hyssop
- Brandegee's clarkia
- California black rail
- Red Bluff dwarf rush
- Sacramento Orcutt grass
- Sanford's arrowhead
- Swainson's hawk
- bald eagle
- big-scale balsamroot
- burrowing owl
- dwarf downingia
- giant gartersnake
- grasshopper sparrow
- hispid salty bird's-beak
- legenere
- pallid bat
- pincushion navarretia
- purple martin
- steelhead - Central Valley DPS
- tricolored blackbird
- valley elderberry longhorn beetle
- vernal pool fairy shrimp
- vernal pool tadpole shrimp
- western pond turtle
- western spadefoot
- white-tailed kite

V:\2252 Roseville RMA Consulting Services\BIO\CNDDB SpeciesOccurrences.mxd

0 1 2 3 4 5 Miles

CNDDB Ocurrences within 5 Miles of the City of Roseville
CNDDB GIS Data updated July 2016

List includes: all FESA and CESA listed species, Species of Special Consern, Fully Protected Species, and CNPS Rare Plant Rank 1 - 3 Species within 5 miles of City Boundaries

DOKKEN ENGINEERING

Plant List

2 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 38121F3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	4.2	S3	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb	1B.2	S3	G3

Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 24 June 2016].

Plant List

4 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 38121F2

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	Onagraceae	annual herb	4.2	S4	G4G5T4
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2B.2	S2	GU
Navarretia myersii ssp. myersii	pincushion navarretia	Polemoniaceae	annual herb	1B.1	S2	G2T2
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 24 June 2016].

CNPS California Native Plant Society

Rare and Endangered Plant Inventory

Plant List

2 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 38121G2

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	Onagraceae	annual herb	4.2	S4	G4G5T4
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	S2	G2

Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 24 June 2016].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The Calflora Database
The California Lichen Society

CNPS California Native Plant Society

Rare and Endangered Plant Inventory

Plant List

7 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 38121G3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
Chloropyron molle ssp. hispidum	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.1	S2	G2T2
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2B.2	S2	GU
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	S2	G2
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Juncaceae	annual herb	1B.1	S2	G2T2
Legenere limosa	legenere	Campanulaceae	annual herb	1B.1	S2	G2
Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Polemoniaceae	annual herb	4.2	S3	G4T3

Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 24 June 2016].

Appendix C — Special Status Species Potential Table

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species						
California red-legged frog	Rana draytonii	Fed: CA: CDFW:	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; estivation occurs late summer-early winter. Breeds from January-July Occurs from elevations near sea level to 5,200 feet.	A	**Presumed Absent:** Although the City of Roseville does contain permanent sources of water in the form of perennial stream channels. Habitat value is degraded by presence of exotic predators including bull frogs, bass, and mosquito fish. The City is located within the Sacramento Valley ecological subsection, an area without documented occurrences of the species. The nearest CNDDB occurrence is approximately 7.5 miles east of the City Boundary within the Sierra Nevada Foothills and the American River Watershed. The species is presumed absent from the BSA based on a lack of documented occurrences within the Creeks that run through the City, presence of invasive predators and competitors, and the City being located within an ecological subsection not known to contain the species.
California tiger Salamander	Ambystoma Californiense	Fed: CA: CDFW:	T T --	Inhabits annual grasslands and the grassy understory of Valley-Foothill Hardwood communities. Requires underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding	A	**Presumed Absent:** Although the eastern portion of Roseville does contain grasslands and vernal pools, the nearest CNDDB occurrence of the species is 22.5 miles from City boundaries. The species is presumed absent from the City based on a lack of documented occurrences. In addition, the City is located outside of the species range (USFWS 2016)
Western spadefoot	Spea hammondii	Fed: CA: CDFW:	-- -- SSC	Inhabits burrows within grassland and valley foothill hardwood woodland communities. Requires vernal, shallow, temporary pools	P	**High Potential:** The eastern portion of the City contains potentially suitable grasslands and vernal pool complexes for the species. There are numerous

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				formed by heavy winter rains for reproduction. Breeds late winter-March.		documented occurrences of the species within City boundaries. The species is considered to have a high potential of occurring within City boundaries based on presence of suitable habitat and documented occurrences of the species within the City.
Bird Species						
Bald eagle	Haliaeetus leucocephalus	Fed: CA: CDFW:	 Delisted 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.	A	**Presumed Absent:** The City does not contain a body of water with a fish population capable of sustaining bald eagles. The nearest suitable water body is Folsom Lake, approximately 2.5 miles east of the City. The nearest documented occurrence of Bald Eagle is along the edge of Folsom lake, approximately 6 miles east of the City. The species is presumed absent from the BSA based on a lack of large water bodies capable of supporting the species.
Burrowing owl	Athene cunicularia	Fed: CA: CDFW:	-- -- 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).	P	**Low Potential:** The City does contain potentially suitable grassland and shrub dominated habitat for the species. There is one CNDDB occurrence of the species within the City boundaries from 1998 and numerous occurrences within 5 miles of the City. The species is considered to have a low potential of occurring within the City based on potentially suitable habitat and historic occurrences.
California black rail	Laterallus jamaicensis coturniculus	Fed: CA: CDFW:	-- T FP	A rare yearlong California resident of brackish, and fresh emergent wetlands in delta and coastal locations, including the San Francisco Bay area, Sacramento-San Joaquin Delta, Morro Bay, the	A	**Presumed Absent:** Although emergent wetlands are present within the City, the species has never been documented within City boundaries. A single occurrence of the species is documented approximately 3.8 miles

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				Salton Sea, and lower Colorado River. Occurs in tidal emergent wetlands dominated by pickleweed, in brackish marshes dominated by bulrushes with pickleweed and in freshwater wetlands dominated by bulrushes, cattails, and saltgrass. Species prefers high wetland areas, away from areas experiencing fluctuating water levels. Requires vegetation providing adequate overhead cover for nesting. Eggs are laid March-June.		northeast of the City but this occurrence is an outlier from the main population centers in the San Francisco Bay and Northern Sierra Nevada Foothills. The species is considered absent from the City based on the City being outside of the known distribution of the species.
Grasshopper sparrow	Ammodramus savannarum	Fed: CA: CDFW:	-- -- SSC	Inhabits dry or well drained, dense grasslands on rolling hills, lowland plains, and valleys and hillsides on lower mountain slopes. Requires thick cover of native grasslands, preferably comprised of grasses, tall forbs and scattered shrubs. In southern California largely utilizes hillsides, and lower mountain slopes. Species may form small groups when nesting. Breeds April-July (0-5,000 feet).	P	**Low Potential:** The City does contain potentially suitable habitat for the species, particularly in the less developed western half of the City. There are no occurrences of the species within the City limits but there are scattered occurrences within 10 miles of the City in areas with habitats similar to those found in the western half of the City. The species is considered to have a low potential of occurring within the City based on presence of potentially suitable habitat and scattered regional occurrences.
Purple martin	Progne subis	Fed: CA: CDFW:	-- -- 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	P	**Low Potential:** Potentially suitable riparian habitat for the species is present within the City and there is a recent CNDDB occurrence of the species within the City Boundary. The species is considered to have a low potential of occurring within the City based on presence of riparian habitat and a single occurrence of the species.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				nest in human-made structures such as nesting boxes, under bridges and in culverts. Needs abundant aerial insect prey. Breeds April-August.		
Swainson's hawk	Buteo swainsoni	Fed: CA: CDFW:	-- 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.	P	**Moderate Potential:** The City does contain potentially suitable riparian nesting habitat and grassland foraging habitat in the western half of the City. There is 1 recent and 2 historic occurrences of the species within the City and numerous occurrences within 5 miles of City boundaries. The species is considered to have a moderate potential of occurring within the City based on presence of potentially suitable habitat and local and regional occurrences of the species.
Tricolored blackbird	Agelaius tricolor	Fed: CA: CDFW:	-- -- SSC	Inhabits freshwater marsh, swamp and wetland communities, but may utilize agricultural or upland habitats that can support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey and is within 0.3 miles of open water. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests mid-march - early August, but may extend until October/November in the Sacramento Valley region.	P	**Moderate Potential:** There is potentially suitable freshwater wetland habitat for the species and multiple documented occurrences of the species within 5 miles of the City.
White-tailed kite	Elanus leucurus	Fed: CA: CDFW:	-- -- FP	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open	P	**Moderate Potential:** There is potentially suitable riparian nesting habitat along various creeks within the City and potentially suitable grassland

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Breeds February- October.		foraging habitat in the western half of the City. There is one documented occurrence of the species within the City boundary and scattered occurrences in the surrounding region.
Fish Species						
Delta smelt	Hypomesus transpacificus	Fed: CA: CDFW:	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.	A	**Presumed Absent:** The City is not located near the Sacramento Delta San Francisco Bay. No brackish water habitat is present for the species and the nearest known occurrence is approximately 31 miles south of the City. The species is presumed absent based on the City being outside of the known distribution of the species, a lack of documented occurrences, and a lack of suitable habitat.
Steelhead - Central Valley DPS	Oncorhynchus mykiss irideus	Fed: CA: CDFW:	T -- --	South/central steeelhead utilize rivers and creeks from Pajaro River south to Santa Maria River. Spawning occurs in coastal watersheds while rearing occurs in freshwater or estuary habitats prior to migrating to the ocean in the winter and spring. Preferred spawning sites contain gravel substrate with sufficient water flow and riverine cover. Rearing habitat contains sufficient feeding with associated riparian forest containing willow and cottonwoods. Migration upstream for reproduction occurs from October-May with spawning occurring January - April.	P	**High Potential:** Steelhead have been documented in Dry Creek, Secret Ravine, and Miners Ravine within the City. In addition, these stream channels have been designated as critical habitat for the species by USFWS. Steelhead is considered to have a high potential of occurring within these channels.
Invertebrate Species						
Conservancy fairy shrimp	Branchinecta conservatio	Fed: CA: CDFW:	E -- --	Inhabits relatively large and turbid clay bottomed playa vernal pools. Species requires pools to	P	**Low Potential:** Potentially suitable vernal pool habitat is found in the northwestern portion of the City. There

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				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 utilize smaller, less turbid pools.		is a single CNDDB occurrence of the species approximately 6 miles north of the City. This occurrence and other regional occurrences are in similar vernal pool habitats as those found in the City.
Valley elderberry longhorn beetle	Desmocerus californicus dimorphus	Fed: CA: CDFW:	T -- --	Species requires elderberry shrubs as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. (Sea level-3,000 feet).	P	**Low Potential:** Potentially suitable riparian habitat is present in riparian corridors throughout the City. There are no CNDDB documented occurrences of the species within the City, but there are multiple occurrences east of the City Boundary. The species is considered to have a low potential of occurring based on presence of riparian habitat and regional occurrences.
Vernal pool fairy shrimp	Branchinecta lynchi	Fed: CA: CDFW:	T -- --	In California, species inhabits portions of Tehama county, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms.	P	**High Potential:** The City contains potentially suitable vernal pool habitat and there are dozens of recently documented occurrences of the species within City boundaries.
Vernal pool tadpole shrimp	Lepidurus packardi	Fed: CA:	E --	Inhabits vernal pools and swales containing clear to highly turbid	P	**Moderate Potential:** The City contains potentially suitable vernal pool habitat

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CDFW:	--	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.		and there is one historic occurrence of the species within City boundaries.
Mammal Species						
Pallid bat	Antrozous pallidus	Fed: CA: CDFW:	-- -- 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. Forages over open ground within 1-3 miles of day roosts. Prefers caves, crevices, and mines for day roosts, but may utilize hollow trees, bridges and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Maternity colonies form early April and young are born April-July (below 10,000 feet).	P	**Presumed Absent:** The City does not contain preferred rock crevice, mine, or cave roosting habitat but may contain marginal bridge, structure, and hollow tree roosting habitat. There are no recent (<20 years) CNDDB documented occurrences of the species within 50 miles of the City. The species is presumed absent from the City based on a lack of recent regional occurrences.
Reptile Species						
Giant gartersnake	Thamnophis gigas	Fed: CA: CDFW:	T T --	Inhabits marsh, swamp, wetland (including agricultural wetlands), sloughs, ponds, rice fields, low gradient streams and irrigation/drainage canals adjacent to uplands. Ideal habitat contains both shallow and deep water with variations in topography. 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	A	**Presumed Absent:** The City is located east of the known distribution of giant garter snake. All regional CNDDB occurrences of the species are located at least 4 miles west of the City in rice fields and other wet habitats along the Sacramento River. The species is presumed absent from the BSA based on a lack of suitable slough and rice field habitats as well as the City being located outside of the known distribution of the species.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during winter dormant season.		
Western pond turtle	Emys marmorata	Fed: CA: CDFW:	-- -- SSC	A fully aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat (sandy banks or grassy open field) for reproduction (sea level to 4,690 feet).	P	**Moderate Potential:** The City contains potentially suitable stream channel habitat for the species. There are no documented occurrences within the City but there are numerous occurrences of the species within 5 miles of the City
Plant Species						
Big-scale balsamroot	Balsamorhiza macrolepis	Fed: CA: CNPS:	-- -- 1B.2	A perennial herb inhabiting open grassy or rocky slopes and valleys within chaparral, cismontane woodland, valley and foothill grassland communities; sometimes occurs in serpentine soils. Flowers March- June (295-5,101 feet).	P	**Presumed Absent:** The city does contain foothill grassland communities but there are no recent (<20 years) occurrences of the species within 50 miles of the City.
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).	P	**Moderate Potential:** Potentially suitable vernal pool, and wetland habitat for the species is present within the City. There one recent documented occurrences of the species within City boundaries and several historic occurrences. The species is considered to have a moderate potential of occurring within the City based on presence of potentially suitable habitat and 1 recent CNDDB occurrence within the City.
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).	P	**High Potential:** Potentially suitable vernal pool and mesic grassland habitat is present in the western half of the City. There are multiple documented occurrences of the species in these

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						areas. The species is considered to have a high potential of occurring within the City based on the presence of potentially suitable vernal pool and mesic grassland habitat as well as numerous documented occurrences of the species within City limits. .
Hispid salty bird's-beak	Chloropyron molle ssp. hispidum	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting moist alkaline soils of saline marshes and flats, meadows and seeps, playas, and valley and foothill grassland communities. Flowers June-July (0-509 feet).	A	**Presumed Absent:** Valley foothill grassland communtiies are found within the City but there are no recent CNDDB documented occurrences of the species within 40 miles of the City.
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).	P	**Low Potential:** The City does contain potentially suitable vernal pool habitat for the species. There are no documented occurrences of the species within the City but there are 5 recently documented occurrences within 10 miles of the City in similar habitats as those found within the City.
Pincushion navarretia	Navarretia myersii ssp. myersii	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting vernal pool communities, often in acidic soil conditions. Flowers May (65-1,083 feet feet).	A	**Presumed Absent:** Potentially suitable vernal pool habitat is present within the City but there are no recently (<20 years) documented CNDDB occurrences of the species within 19 miles of City boundaries. The nearest recently documented occurrence is approximately 19 miles south the City in
Red Bluff dwarf rush	Juncus leiospermus var. leiospermus	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting vernally mesic soils of chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland and vernal pool communities. Flowers April – June (104-4,101 feet).	A	**Presumed Absent:** The City does contain potentially suitable vernal pool habitat but there are no recent CNDDB occurrences of the species within 50 miles of the City. A single historic occurrence of the species is found within the City, but this occurrence is outside of the current distribution of the City and has not been found at this

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						location during more recent field surveys.
Sacramento Orcutt grass	Orcuttia viscida	Fed: CA: CNPS:	E E 1B.1	An annual herb inhabiting vernal pools. Flowers April-July (98-328 feet).	A	**Presumed Absent:** Potentially suitable vernal pools are present within the City but there are no documented occurrences of the species within the City. All recent CNDDB occurrences of the species are at least 4 miles south of the City. The nearest occurrences are located within vernal pool preserves near the American River. The bulk of the occurrences are south of Highway 50 in the grassland vernal pool complexes east of Mather Field.
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).	A	**Moderate Potential:** Potentially suitable stream channel habitat is present within the City. There are no documented occurrences of the species within City boundaries but there are several occurrences within 5 miles of City boundaries.

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **PT:** Federal proposed, threatened **D:** Delisted	**State Designations (CA):** (CESA, CDFW) **E:** State-listed, endangered **T:** State-listed, threatened **CT:** State-candidate, threatened **FP**: Fully Protected

Other Designations:
SSC: DFW Species of Special Concern

California Native Plant Society (CNPS) 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 California Fish and Game 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.
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 4 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)

Habitat Presence:
Absent [A]: No habitat present and no further work needed.
Habitat Present [HP]: Habitat is, or may be present. The species may be present.
Present [P]: Species is present.
Critical Habitat [CH]: Project footprint is located within a designated Critical Habitat unit, but does not necessarily mean that appropriate habitat is present.

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 mi 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 mi 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: (Bennett 2005), (CNPS 2014), (CDFW 2014), (California Herps 2014), (Evens 2000), (Jepson 2013), (Kyle 2011), (Miller and Hornaday 1999), (NMFS 1993), (NMFS 2005), (NMFS 2009), (NMFS 2013a), (NMFS 2013b), (Placer and Sacramento Counties 2003), (Sibley 2003), (Tesky 1994), (UC Davis 2014), (USFWS 2002), (USFWS 2002b), (USFWS 2007a), (USFWS 2007b) (USFWS 2007c), (USFWS 2012), and (Zeiner 1988-1990)

Sources:

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 5/20/14).

CDFW. 2014. CWHR Life History Accounts and Range Maps. Available at: <http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx> (accessed11/18/14).

CDFW. 2005. California Wildlife Habitat Relationships System. Available at: <http://www.dfg.ca.gov/biogeodata/cwhr/wildlife_habitats.asp> (accessed 8/11/14).

California Herps. 2014. A Guide to the Amphibians and Reptiles of California. Available at: <http://www.californiaherps.com/> (accessed 7/17/14).

Cal-IPC. 2014. California Invasive Plant Council-California Invasive Plant Inventory Database. Available at: <http://www.cal-ipc.org/paf/> (accessed 8/18/14).

Evens, 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 5/20/14).

Jepson. 2013. Jepson eFlora. Available at: <http://ucjeps.berkeley.edu/jeps/> (accessed 9/23/14).

Kyle, Keiller. 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 11/18/14).

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 11/18/14).

NMFS. 2013. Steelhead Trout (*Oncorhynchus mykiss*). NOAA Fisheries Office of Protected Resources. Available at: <http://www.nmfs.noaa.gov/pr/species/fish/steelheadtrout.htm> (accessed 8/11/14).

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.nmfs.noaa.gov/pr/pdfs/species/sacramentoriver_winterrunchinook_5yearreview.pdf> (accessed 7/29/14).

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 11/18/14).

NRCS. 2016. Custom Soil Resource Report for Placer County, California. Generated September 2014. Available at: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> (accessed 11/14/14)

Placer and Sacramento Counties. 2003. Dry Creek Watershed Coordinated Resources Management Plan. Available at: <http://www.placer.ca.gov/departments/communitydevelopment/planning/placerlegacy/watershedplanning/drycreek/resourcemgtplan> (accessed 10/1/14).

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. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Sibley, David. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, Inc., New York.

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 11/18/14).

UC, Davis. 2014. Tricolored Blackbird Portal. Information Center for the Environment, University of California, Davis. Available at: <http://tricolor.ice.ucdavis.edu/> (accessed 11/18/14).

USFWS. 2012. Giant Garter Snake (*Thamnophis gigas*) 5 year Review: Summary and Evaluation. Sacramento U.S. Fish and Wildlife Office. Available at: <http://ecos.fws.gov/docs/five_year_review/doc4009.pdf> (accessed 11/18/14).

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 11/18/14).

USFWS. 2007b. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-Year Review: Summary and Evaluation. Sacramento U.S. Fish and Wildlife Office. Available at: <http://www.fws.gov/cno/es/images/graphics/vpfs_5-yr%20review%20cno%20final%2027sept07.pdf > (accessed 11/18/14).

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 11/18/14).

USFWS. 2002. 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 11/18/14).

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 11/18/14).

USFWS. 1999. USFWS 1999 Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Available at: <http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/velb_conservation.pdf> (accessed 11/18/14).

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 D — List of Abbreviated Terms

Abbreviation	Full Meaning
BMPs	Best Management Practices
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 Roseville
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CO_2	Carbon dioxide
dbh	Diameter At Breast Height
CDTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse Gas
HMMP	Habitat Mitigation and Monitoring Plan
IS/MND	Initial Study/ Mitigated Negative Declaration
MLD	Most Likely Descendant
MS4	Municipal Separate Storm Sewer Systems
NOx	Nitrogen Oxides
N_2O	Nitrous Oxide
NAHC	Native American Heritage Commission
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OHWM	Ordinary High Water Mark
Placer County APCD	Placer County Air Pollution Control District
PM_{10}	Respirable 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
SIP	State Implementation Plan
SVAB	Sacramento Valley Air Basin
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VMT	Vehicle Miles Traveled
VRF	Verification Request Form

Appendix E — Biological Opinion on Open Space Preserve Overarching Management Plan

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2008-F-1958-3

MAY 3 2011

Memorandum

To: Susan K. Moore, Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

From: Kenneth D. Sanchez, Assistant Field Supervisor, Endangered Species Program, Sacramento Fish and Wildlife Field Office, Sacramento, California

Subject: Biological Opinion on Service Approval of the City of Roseville Open Space Preserve Overarching Management Plan in Placer County, California

This memorandum is in response to the April 9, 2010, request for formal intra-Service consultation on the U.S. Fish and Wildlife Service's (Service) approval of the City of Roseville Open Space Preserve Overarching Management Plan (proposed project or Plan) in Placer County, California. Additional information necessary for the consultation was received from the City of Roseville (City) (project applicant) on November 5, 2010, January 21, 2011, and March 8, 2011. At issue are the potential effects of the proposed project on the endangered vernal pool tadpole shrimp (*Lepidurus packardi*), the threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the endangered Conservancy fairy shrimp (*Branchinecta conservatio*), and the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphhus*) (beetle). You requested concurrence that the project is likely to adversely affect the vernal pool fairy shrimp, vernal pool tadpole shrimp, and the beetle, and concurrence that the project is not likely to adversely affect the endangered Conservancy fairy shrimp (*Branchinecta conservatio*). The proposed project is not located in critical habitat for any federally listed species; therefore none will be affected. This response is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and is in accordance with the regulations governing intra-Service consultations (50 CFR §402).

This biological opinion is based on: (1) various drafts and revisions of the City of Roseville Open Space Preserve Overarching Management Plan; (2) various emails, meetings, and site visits between the Service, the U.S. Army Corps of Engineers (Corps), and the City; and (3) other information available to the Service.

The Service concurs that the proposed project is not likely to adversely affect the Conservancy shrimp based on the lack of suitable habitat in the action area and the low probability of the

species being present. The Service concurs that the proposed project is likely to adversely affect the vernal pool fairy shrimp and the vernal pool tadpole shrimp (collectively, vernal pool crustaceans), and the beetle. Therefore, this document represents the Service's biological opinion on the effects of the proposed project on the vernal pool crustaceans and the beetle in accordance with the Act.

Consultation History

In August 18, 2000, the City entered into a Memorandum of Understanding (MOU) (Appendix 1 in Plan) with the Service. Development of the MOU was a Proposed Conservation Measure in the *Review of the Pleasant Grove Wastewater Treatment Plant Project, Placer County, California* (Service File 1-1-99-F-0006) in order to obligate the Service and the City to work toward a mutually agreeable conservation program that would minimize adverse effects to federally listed species due to future development within the jurisdiction of that City that is serviced by the Pleasant Grove Wastewater Treatment Plant (PGWTP). Additionally, the MOU required that the City work with the Service to develop a long-term habitat conservation plan (HCP) or an equivalent document to minimize the future adverse effects to federally listed species in areas served by the Phase 2 operations of the PGWTP. An interim strategy was developed, and it was ultimately decided by the Service and the City that an HCP was not needed. However, the Service requested that the City develop a plan to standardize the monitoring and management of its system of vernal pool and wetland preserves in an overarching management plan. The City has requested that the Service and the Corps review this Plan. In order to be in compliance with the Act and receive exemption from the prohibitions of section 9 of the Act, the City requested that the Service perform an intra-Service consultation on the approval this Plan: this consultation is on the Service's approval of that proposed Plan.

BIOLOGICAL OPINION

Description of Proposed Action

The City's Open Space system consists of 34 City-owned Open Space Preserves (1,992 acres; Figure 1, Appendix A) and 12 primarily City-owned General Open Space areas (532 acres; Figure 2), totaling approximately 2,524 acres. Open Space Preserves are lands that were required to be preserved as part of a regulatory action (i.e., a biological opinion, a Corps permit) and are typically protected by a Conservation Easement or Declaration of Covenants and Restrictions. The Open Space Preserves are primarily vernal pool grassland or riparian corridors. Approximately 776 acres of the Open Space Preserves are within the Western Placer County core area of the Southeastern Sacramento Valley Vernal Pool Region. The General Open Space areas are lands set aside due to City policy or to meet Specific Plan or General Plan requirements. The Open Space Preserves and General Open Space areas are collectively referred to as Open Space.

Since the 1990s, the City has managed its Open Space Preserves according to individual operation and management plans. While this approach was reasonable when only a few Open Space Preserves existed, the number of preserves has steadily increased over the last decade.

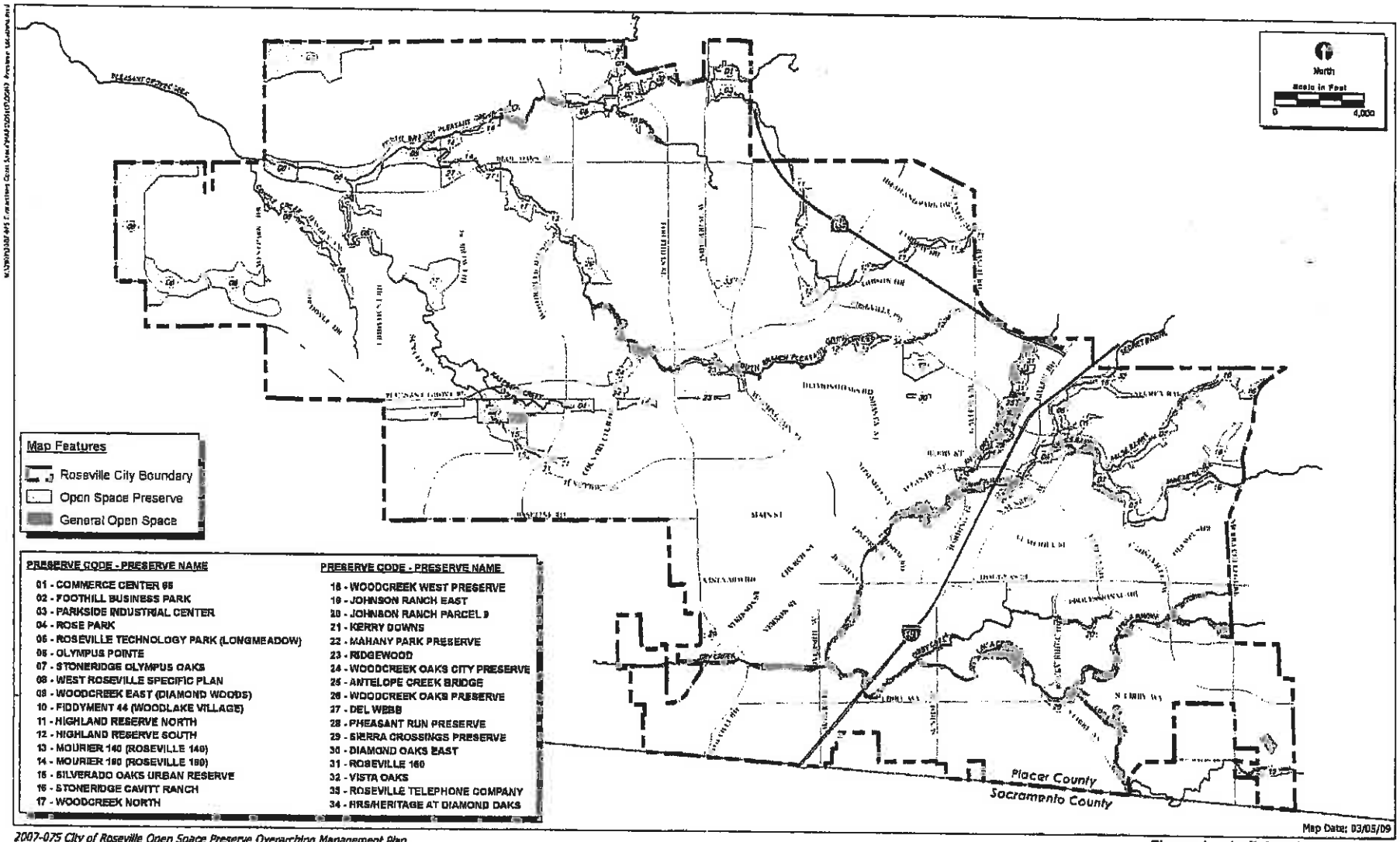


Figure 1 Individual Open Space Preserve Locations

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

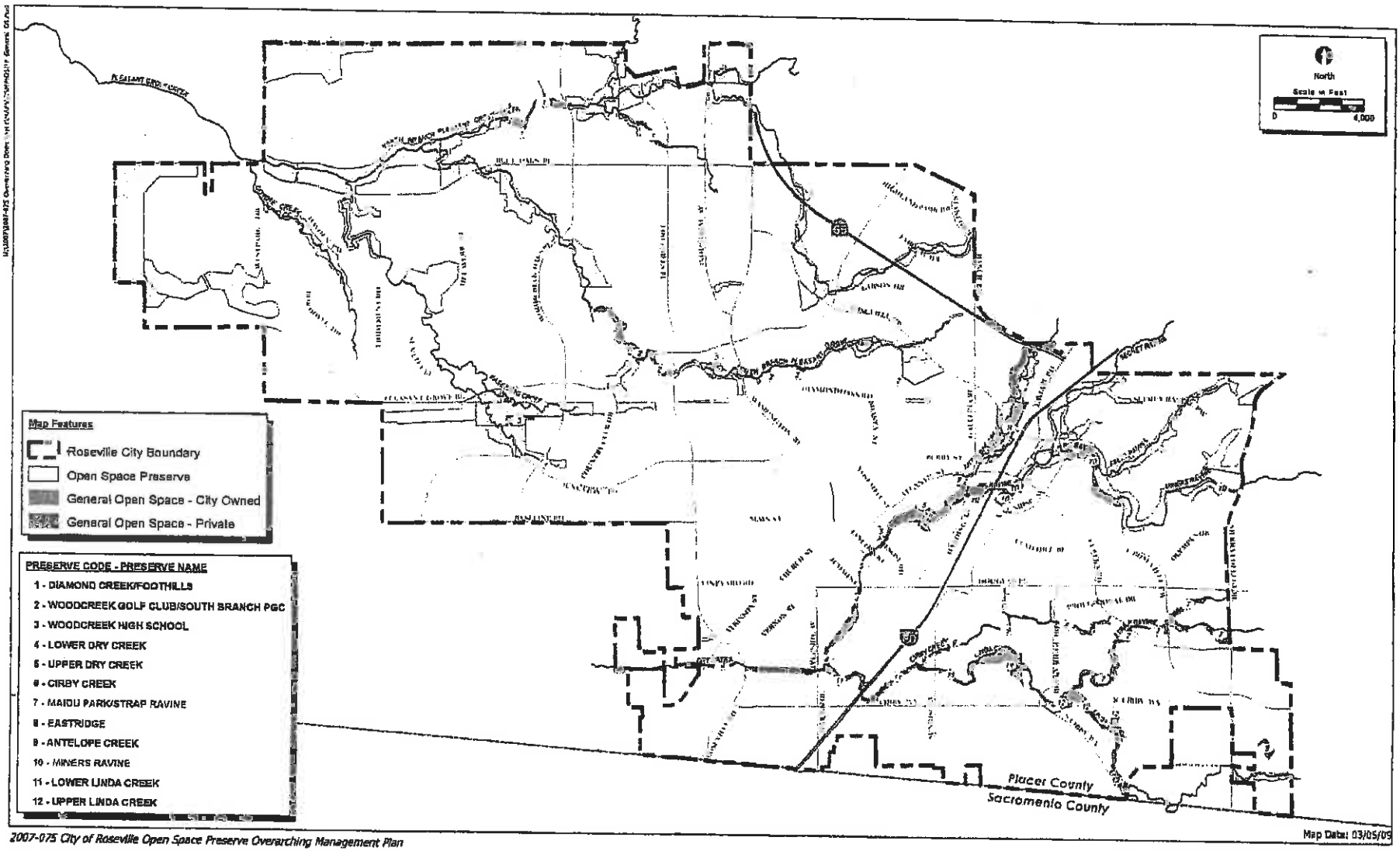


Figure 2 General Open Space

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Because the Open Space Preserves were established at different times, the individual management plans are different. Development of this Plan is an effort to update and standardize management practices. Ultimately, the City would like to manage the City-owned General Open Space areas in a manner similar to Open Space Preserves; however, there is currently limited funding for that level of management, monitoring, and maintenance. The Plan is intended to be the guiding document for the management of both existing Open Space and future Open Space dedicated through the development process or through habitat conservation efforts. The purpose of the Plan is:

1. To provide a City-wide approach to Open Space management, maintenance, and monitoring.
2. To provide specific goals for Open Space management, maintenance, and monitoring.
3. To consolidate existing Open Space Preserve monitoring and reporting requirements to allow for more comprehensive data gathering and preparation of a single annual monitoring report.
4. To consolidate existing Operation and Management Plans, and update the approved list of allowed uses of Open Space Preserve areas.
5. To eliminate the need for additional management plans when new open space is dedicated through the development process or habitat conservation efforts.
6. To gain approval of necessary open space management and maintenance tasks that may adversely affect federally listed species protected by the Act.
7. To reduce agency and City staff workload by providing an agreed-upon method for corrective actions.
8. To provide a platform for grant funding.

The Plan includes template deed restrictions that will be placed on Open Space Preserves. General Open Space does not have deed restrictions or conservation easements, but are zoned as open space by the City and are typically within a floodplain.

The Plan includes criteria for inclusion of Open Space Preserves and General Open Space established in the future. In order to include new Open Space Preserves or new General Open Space as part of this biological opinion, the City will submit a request for inclusion to the Service which includes, at a minimum: the location of the new area; a map of the new area; the acreage of vernal pool crustaceans within the new area; information on the presence of elderberry shrubs within the new area; any documentation of listed species within the new area; a commitment that the new area will be managed in accordance with the Plan, and the Service File Number of any associated biological opinion. This biological opinion will be reinitiatied for the inclusion of the new area.

The Plan includes monitoring and surveying of habitat and species. For vernal pool crustaceans, this involves selecting 10 percent of the vernal pools within the Preserves for annual sampling; a minimum of five vernal pools will be sampled in each Preserve area. Approximately one-half of the sampled pools will be natural and half will be created. The same group of vernal pools will be sampled every year, although they will be reviewed on an annual basis to determine if there is a reason to change which pools are being sampled. The goal is to increase sampling to 20

percent of pools, which will require additional funding. As additional funding becomes available, more monitoring will be added such as: additional pools will be surveyed for vernal pool crustaceans; special-status plant surveys will be conducted; and beetle surveys will be conducted. Surveys will be conducted by individuals with a valid 10(a)1(A) permit with approval from the Service to perform the survey.

The Plan allows the City to conduct activities related to existing City facilities and habitat restoration on the Open Space covered by the Plan that are likely to adversely affect the beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Activities related to City facilities includes, but is not limited to, working on bike trails and maintenance roads, detention and retention structures, water quality features, outfalls and inlets, bridges and culverts, water lines, sewer lines, natural gas lines, electrical poles and towers, fiber optic lines, telephone poles/lines, stream gauges, and cell phone towers. Examples of restoration activities are restoring vernal pools impacted by illegal off-road vehicle use or dirt-bike jumps. The City accepts fee title to Preserves after the appropriate agencies have given final approval of the success of created habitat; however, occasionally monitoring may indicate that a created wetland has poor function. Poorly functioning created wetlands are those that are not inundated for a period sufficient, either too long or too short of an inundation period, to support appropriate vernal pool or seasonal wetland plant compositions. When budget is available, the City may undertake remediation of these poorly-functioning wetlands. This may include revegetation of pools after altered hydrology is corrected, making the wetland basins deeper, or creating wetland swales to allow overflow from other wetlands to augment direct precipitation. Appendix B outlines where each of these activities are covered in the Plan in detail and outlines which conservation measures listed below apply to each activity. The City will limit these activities to the following:

Vernal Pool Crustaceans

Primary impacts for the restoration of up to 8 acres of vernal pool fairy shrimp and vernal pool tadpole shrimp habitat for the lifetime of this biological opinion, with a maximum of 2 acres in any one year, including:

- Minor grading (using a skip loader or asphalt floater) or hand work required to restore or remediate habitat resulting from human disturbance, emergency firebreaks, altered hydrology, sedimentation, or poor function (created habitat only).
- Mowing and vacuuming no more than 25% of the total area of any selected vernal pool for material to act as inoculum used in revegetating restored pools.

Secondary impacts of up to 6 acres of vernal pool fairy shrimp and vernal pool tadpole shrimp habitat for the lifetime of this biological opinion, with a maximum of 3 acres in any one year, for City facility maintenance, replacement, or modification that causes ground disturbance within 250 feet of vernal pool habitat (e.g., replacement of a utility pole). This does not apply to the installation of new City facilities which will be addressed in a separate consultation.

Valley Elderberry Longhorn Beetle

Trimming of up to 100 shrubs for the lifetime of this biological opinion, with a maximum of 10 elderberry shrubs in any one year, for Open Space and City facility maintenance and replacement purposes and restoration projects under the Plan. No more than 80 stems will be trimmed per year on the 10 shrubs, not to exceed the size classes below:

- 50 stems measuring between one and three inches in diameter at ground level.
- 20 stems between three inches and five inches in diameter at ground level.
- 10 stems five inches in diameter or greater at ground level.

No more than half of an elderberry shrub can be removed by combining the allowed stem removals. Stems under one inch in diameter at ground level are not considered beetle habitat and may be trimmed in any number, but only as needed to meet the purpose of the maintenance or restoration project.

Indirect impacts of up to an additional 200 shrubs, with a maximum of 20 elderberry shrubs in any one year, for City facility maintenance, replacement, or modification, that causes ground disturbance within 100 feet of an elderberry shrub. This does not apply to the installation of new City facilities, although such facilities maybe addressed in a separate biological opinion.

Additionally, the Plan includes detailed plans for a bike trail bridge at Highlands Reserve South and effects of the bridge on vernal pool fairy shrimp and vernal pool tadpole shrimp are analyzed in this biological opinion. The bridge will consist of an 89-foot rail-car bridge decking placed on two concrete abutments, which cross a portion of the easterly section of an unnamed tributary to Pleasant Grove Creek. Permanent rock rip-rap will be placed around the concrete abutments. Equipment used will be excavators, backhoes, front loaders, compactors, bulldozer, cranes, water trucks, concrete trucks, and paving and striping equipment. Construction will occur within 3 to 15 feet of two pools which are 0.013 and 0.047 acres (total of 0.06 acre).

The Plan also includes many activities which are not likely to adversely affect listed species based on the descriptions in the Plan and the proposed conservation measures outlined below. Some of these activities overlap with the facility maintenance activities discussed above; for those activities, the location of the proposed action relative to vernal pool habitat (within 250 feet) or elderberry shrubs (within 100 feet) distinguishes if each activity is likely or not likely to adversely affect the species. These activities are: mechanical vegetation management; vegetation management by grazing; vegetation management with pesticides; vegetation management as it relates to outfall, drainage, culvert, and bridge maintenance; tree maintenance and removal; biological monitoring (except for surveys requiring a 10(a)1(A) permit); restoration or correction of vandalism outside of vernal pools; native tree planting; education activities; beaver management; trash removal; fence, gate, bollard, and signage maintenance and replacement; bike trail maintenance and replacement; erosion control; firebreaks; and water quality feature (detention or stormwater basin) maintenance. Appendix C outlines where each of these activities are covered in the Plan in detail and outlines which conservation measures listed below apply to each activity.

The Plan includes actions that are conceptually proposed (e.g., bike trails), but not enough detail is known at the current time to evaluate effects. Plan approval recognizes these conceptual uses as future allowed uses within the Preserve areas identified, but this does not negate the need for consultation with the Service on activities that may adversely affect listed species, with the exception of those specifically addressed in this biological opinion.

A single comprehensive Annual Report addressing the status of the City's Open Space system will be provided to the Service. It will include at a minimum: a map of the City's Open Space Preserve system; representative photos; a description of proposed activities and maintenance or management actions required by the Plan; a description of actions for which Corps and Service notification or approval was not needed, but were carried out during the year; a summary of all take of federally listed species (authorized and/or unauthorized) that occurred during the monitoring year as a result of management actions; observations from the various general and biological inspections/surveys; and recommendations for altered management practices as needed.

Conservation Measures

The conservation measures as proposed below are considered part of the proposed action evaluated by the Service in this biological opinion. Conservation measures will be implemented as appropriate for each activity. Appendices B and C outline which conservation measure applies to each activity.

General Conservation Measures

1. **Exclusion Zone Fencing/Flagging:** The City will mark the boundaries of environmentally sensitive exclusion zones and sensitive habitat features that are to be avoided (wetlands, vernal pools, elderberry shrubs, etc.) with highly visible flagging or fencing to prevent impacts from vehicles. All maintenance personnel will be required to conduct work activities within the defined area only.

2. **Work Zone:** Heavy equipment, vehicles, and maintenance work will be confined to existing or designated access roads, road shoulders, and disturbed or designated areas. Ground disturbance and vegetation removal will be confined to the minimum extent necessary to complete the work.

3. **Maintenance Monitoring:** The City will retain a Service-approved biologist(s) or trained City staff member to be on-site during maintenance activities that will result in direct impacts to species or their habitat.

4. **Erosion and Dust Control:** The City will implement erosion, sediment, material stockpile, and dust control best management practices to minimize the potential for fill or runoff to enter wetlands or waterways. A biological monitor will be retained as necessary to monitor and inspect the installation and removal of erosion/sediment control devices if applicable.

5. **Spill Prevention/Containment and Refueling Precautions:** The City will maintain all maintenance equipment to prevent leaks of fuels, lubricants, or other fluids into waterways. Appropriate materials will be on-site to prevent and manage accidental spills. The City will take appropriate precaution when handling and/or storing chemicals (e.g., fuel and hydraulic fluid) near waterways and wetlands, and any and all applicable laws and regulations will be followed. Service and refueling procedures will take place outside open space areas or at least 100 feet from waterways or in an upland area at least 100 feet from wetland boundaries to prevent spills from entering waterways or wetlands.

6. **Trash Cleanup:** The City will properly contain and remove all trash and waste items generated by maintenance activities.

7. **Post-Maintenance Clean-up:** Following maintenance, each maintenance site will be returned to as good or better condition as it was prior to maintenance, including removal of all maintenance debris.

8. **Staging Areas:** The City will locate all staging areas a minimum of 250 feet from elderberry shrubs and from vernal pool crustacean habitat.

Vernal Pool Crustacean Conservation Measures

9. **Work Window:** The City will perform ground disturbing work within 250 feet of vernal pool habitat or work that will result in direct or indirect impacts authorized by this biological opinion only during the dry season (roughly, May 15–October 15).

10. **Worker Awareness Training:** A Service-approved biologist or trained City staff member will brief maintenance crews about the status of listed vernal pool crustaceans and the need to protect the wetlands they inhabit, including the possible penalties for not complying with these requirements. The briefing will include instruction on how to identify vernal pools and other seasonal wetlands that may provide habitat.

11. **Maintenance Access:** The City will avoid driving equipment through vernal pools or other wetland habitat while accessing the Open Space for maintenance activities and will stay on bike trials/maintenance roads whenever possible.

Valley Elderberry Longhorn Beetle Conservation Measures

12. **Pre-Maintenance Surveys:** The City will conduct pre-maintenance surveys for elderberry shrubs prior to the start of maintenance in order to know where shrubs are located and properly implement the measures below or track adverse effects to the beetle.

13. **Worker Awareness Training:** A Service-approved biologist or trained City staff member will brief work crews about the status of the beetle and the need to protect its elderberry host

plant, including the possible penalties for not complying with these requirements. The briefing will include instruction on how to identify the shrub.

14. **Elderberry Shrub Avoidance:** Where feasible, within maintenance areas the City will maintain a 100-foot buffer around existing elderberry shrubs with stems over 1 inch in diameter at ground height.

15. **Elderberry Trimming:** If possible, leave any trimmed elderberry stems greater than one inch in diameter close to the trimmed shrub rather than removing them from the site. Trimming of elderberry shrubs will be done between November and mid-February, the shrub's dormant period, when possible. Elderberries will not be trimmed during the beetle's emergent period, March 15 through June 15.

16. **Maintenance Near/Trimming Elderberry Shrubs:** A buffer of 100 feet surrounding elderberry shrubs will be established whenever possible during maintenance activities. In areas where maintenance will take place within 100 feet of an elderberry shrub, erosion control and revegetation measures will be implemented where necessary. If mowing is required to reduce fire hazard within 100 feet of an elderberry shrub, mowing activities would comply with the work window requirements of measure 17 below. Care will be taken to avoid damaging existing elderberry shrubs with mowing equipment.

17. **Work Window:** Maintenance within 100 feet of any elderberry shrubs will avoid the beetle's emergent period which is March 15 through June 15.

Action Area

The action area is defined in 50 CFR §402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed action, the Service considers the action area to be the Open Space Preserves and General Open Space that the City of Roseville oversees. The Open Space Preserves and General Open Space that are covered by the Plan are distributed throughout the City and include a network of corridors that connect many of the preserves (Figures 1 and 2).

Analytical Framework for the Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which evaluates the vernal pool crustaceans' and the beetle's range-wide condition, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the vernal pool crustaceans and the beetle in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the vernal pool crustaceans and the beetle (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the vernal pool crustaceans and the beetle; and (4) the *Cumulative Effects*, which

evaluates the effects of future, non-Federal activities in the action area on the vernal pool crustaceans and the beetle.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the vernal pool crustaceans' and the beetle's current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the vernal pool crustaceans and the beetle in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the vernal pool crustaceans and the beetle and the role of the action area in the survival and recovery of the vernal pool crustaceans and the beetle as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

Vernal Pool Fairy Shrimp

Species Description – The vernal pool fairy shrimp was listed as threatened in 1994 (Service, 1994) (59 FR 48153). Further details on the life history and ecology of the vernal pool fairy shrimp may be found in the final listing rule, Eng *et al.* (1990), Helm (1998), Simovich et al. (1992), and Volmar (2002).

Vernal pool fairy shrimp have delicate elongate bodies; large, stalked, compound eyes; no hard shell (i.e., no carapace); and 11 pairs of swimming legs. Typically less than one inch long, fairy shrimp swim or glide upside-down using complex, beating movements of the legs. They are restricted to vernal pools (and swales), an ephemeral freshwater habitat that forms in areas with Mediterranean climates where slight depressions become seasonally saturated or inundated following fall and winter rains. Vernal pool fairy shrimp inhabit alkaline pools, ephemeral drainages, rock outcrop pools, vernal pools, and vernal swales (Eriksen and Belk 1999; Helm 1998). Occupied habitats range in size from rock outcrop pools as small as one square meter to large vernal pools up to 12 acres; the potential ponding depth of occupied habitat ranges from 1.2 inches to 48 inches (in southern California).

The geographic range of this species encompasses most of the Central Valley from Shasta County to Tulare County and the central coast range from northern Solano County to Santa Barbara County, California. Additional occurrences have been identified in western Riverside County, California, and in Jackson County, Oregon near the city of Medford (California Natural Diversity Database [CNDDB] 2008; Helm 1998; Eriksen and Belk 1999; Volmar 2002; Service 1994, 2003). The vernal pool fairy shrimp are currently known from 32 presumed populations. The number of recorded sightings of individuals has increased from 178 to over 550 (CNDDB 2008). Records include old museum records and site duplication, so the number of occurrences that are currently extant is unknown. The distribution of the shrimp remains essentially

unchanged since being listed. Known records suggest that in most locations the shrimp is frequently present only in low numbers or only present in a small percentage of the pools at a site.

Due to local topography and geology, vernal pools are usually clustered into pool complexes (Holland and Jain 1988). The genetic characteristics of the species, as well as ecological conditions, such as watershed continuity, indicate that populations of these animals are defined by pool complexes rather than by individual vernal pools (Fugate 1992). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. The pools and, in some cases, pool complexes supporting these species are usually small.

Life History – Female vernal pool fairy shrimp carry eggs in a pear-shaped, ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The "resting" or "summer" eggs are capable of withstanding heat, cold, and prolonged desiccation. When the pools fill in the same or subsequent seasons, some, but not all, of the eggs may hatch. The egg bank in the soil may consist of eggs from several years of breeding (Donald 1983). The eggs hatch when the vernal pools fill with rainwater. Vernal pool fairy shrimp develop rapidly, feeding on algae, bacteria, protozoa, rotifers, and bits of detritus, and may become sexually mature within two weeks after hatching (Gallagher 1996; Helm 1998). The adults of the vernal pool fairy shrimp have been collected from early December to early May, depending on annual weather conditions. However, these non-dormant populations often disappear early in the season long before the vernal pools dry up. Such quick maturation permits vernal pool fairy shrimp populations to persist in relatively short-lived, shallow bodies of water (Simovich et al. 1992).

Vernal pool fairy shrimp have passive dispersal. Large-scale flooding resulting from winter and spring rains may have played an important role in dispersal of the species, allowing the animals to colonize different individual vernal pools and other vernal pool complexes within a watershed. This dispersal means has been altered due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds likely are now the primary dispersal agents for fairy shrimp (Simovich *et al.* 1992) even at a relatively local scale, and likely have always been important to long-distance dispersal. The eggs of the crustaceans are either ingested (Krapu 1974, Swanson et al. 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

Vernal Pool Tadpole Shrimp

Species Description – A final rule was published on September 19, 1994 (Service 1994), to list the vernal pool tadpole shrimp as endangered under the Act. Further information on the life history and ecology of the vernal pool tadpole shrimp may be found in Eng *et al.* (1990), Helm (1998), Simovich *et al.* (1992), and Volmar (2002).

Vernal pool tadpole shrimp have large, shield-like carapaces approximately one inch long that cover most of their body; dorsal, compound eyes; and a pair of long cercopods, one on each side of a flat caudal plate, at the end of their last abdominal segment. Like vernal pool fairy shrimp, vernal pool tadpole shrimp are restricted to vernal pools (and swales), an ephemeral freshwater habitat that forms in areas with Mediterranean climates where slight depressions become seasonally saturated or inundated following fall and winter rains. They have been found in vernal pools containing clear to highly turbid water and ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County; the potential ponding depth of occupied habitat ranges from 1.5 inches to 59 inches. Vernal pools at Jepson Prairie and Vina Plains (Tehama Co.) have a neutral pH, and very low conductivity, total dissolved solids, and alkalinity (Barclay and Knight 1984, Eng *et al.* 1990). These pools are located most commonly in grass-bottomed swales of grasslands in old alluvial soils underlain by hardpan or in mud-bottomed claypan pools containing highly turbid water.

The vernal pool tadpole shrimp is known from 19 populations in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located on the San Francisco Bay National Wildlife Refuge in Alameda County. As with vernal pool fairy shrimp, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes.

Life History – Females deposit cysts (partially developed embryos encased in an egg-like structure) which settle on the pool bottom. Although some cysts may hatch quickly, others remain dormant to hatch during later rainy seasons (Ahl 1991). Tadpole shrimp may become sexually mature within three to four weeks after hatching (Ahl 1991; Helm 1998). Reproductively mature adults may be present in pools until the habitats dry up in the spring (Ahl 1991; Simovich *et al.* 1992; Gallagher 1996). Vernal pool tadpole shrimp are primarily bottom-dwelling animals that move with legs down while feeding on detritus and living organisms, including fairy shrimp and other invertebrates (Pennak 1989). Vernal pool tadpole shrimp have similar dispersal methods as discussed above for vernal pool fairy shrimp.

Status and Distribution of the Vernal Pool Crustaceans – Both vernal pool crustaceans are imperiled by a variety of human-caused activities, primarily the loss and modification of habitat due to urban development, agricultural conversion, and infrastructure construction, especially along the periphery of urban areas (Service 2007a, 2007b). Habitat loss occurs from direct destruction and modification (e.g., to the hydrology) of pools due to filling, grading, disking, leveling, and other activities, as well as modification of surrounding uplands which alters vernal pool watersheds. Other activities which adversely affect these species include off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use, alterations of vernal pool hydrology, fertilizer and pesticide contamination, invasions of aggressive non-native plants, gravel mining, and contaminated stormwater runoff.

Holland (1978) estimated that between 67 and 88 percent of the area within the Central Valley of California which once supported vernal pools had been destroyed by 1973. However, an analysis of this report by the Service revealed apparent arithmetic errors which resulted in a

determination that a historic loss between 60 and 85 percent may be more accurate. Coe (1988) estimated that within 20 years, 60 to 70 percent of the habitat would be destroyed by human activities. The rate of loss of vernal pool habitat in the state has been estimated at 2 to 3 percent per year (Holland and Jain 1988).

Between 1994 and 2005, the Service's Sacramento Fish and Wildlife Office engaged in section 7 consultations for projects with impacts to approximately 50,000 acres of vernal pool habitat, which includes both the vernal pools (wetland acres) and the surrounding uplands (Service 2007a). This total includes the loss of 25,000 acres of vernal pool habitat to residential, commercial, and industrial development (Service 2005).

In addition to direct habitat loss, the vernal pool habitat also has been and continues to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. This fragmentation results in small isolated populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soule 1986, Goodman 1987a, b). Should an extirpation event occur in a population that has been fragmented, the opportunities for re-colonization would be greatly reduced due to physical (geographical) isolation from other (source) populations. Only a small proportion of the habitat of these species is protected from these threats.

The Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Recovery Plan) provides a recovery strategy for 20 federally listed species: 10 endangered plants, 5 threatened plants, 3 endangered animals, and 2 threatened animals. The vernal pool fairy shrimp and the vernal pool tadpole shrimp are included in the Recovery Plan. The Recovery Plan presents an ecosystem-level strategy for recovery and conservation focused on habitat protection and management. As a basis, the plan uses the 17 vernal pool regions in the State of California as defined by the California Department of Fish and Game in the California Vernal Pool Assessment Preliminary Report (Keeler-Wolf *et al.* 1998). The Recovery Plan further designates core areas that are distinct areas in each vernal pool region that provide the features, populations, and distinct geographic and/or genetic diversity necessary for recovery of the species. Five year reviews were completed for both vernal pool fairy shrimp and vernal pool tadpole shrimp in 2007 (Service 2007a, 2007b). No change in status was recommended for both species.

Valley Elderberry Longhorn Beetle

Species Description – The beetle was listed as a threatened species under the Act on August 8, 1980 (45 FR 52803). Critical habitat for the species was designated and published in 50 CFR §17.95.

The beetle is moderate-sized (0.5 to 1 inch in length) and stout-bodied with elongated cylindrical bodies with long antennae. Males have red-orange elytra (wing covers) with four elongate spots. Females have dark colored elytra.

Life History – The elderberry shrub is the sole host plant for the valley elderberry longhorn beetle, though use of elderberry shrubs by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the shrub's use by the beetle is an exit hole created by the larva emerging just prior to the pupal stage. It has been observed feeding upon both blue and red elderberry (Service 1984, Barr 1991) with stems greater than or equal to one inch in diameter (Barr 1991). Observations of elderberry shrubs along the Cosumnes River and in the Folsom Lake area indicate that larval beetles can be found in elderberry stems with no apparent exit holes; the larvae either succumb prior to constructing an exit hole or do not develop sufficiently to construct one. Larvae appear to be distributed in stems which are 1.0 inch or greater in diameter at ground level and can occur in living stems. *The Valley Elderberry Longhorn Beetle Recovery Plan* (Service 1984) and Barr (1991) further describe the beetle's life history. The beetle tends to have small population sizes and occur in low densities (Barr 1991; Collinge *et al.* 2001).

Distribution and Range – Elderberries are locally common components of the remaining riparian forest and savannah landscapes, and to a lesser extent the mixed chaparral-foothill woodlands, of the Central Valley. The occupancy rates of the beetle are reduced in non-riparian habitats (e.g., Talley *et al.* 2007), indicating that riparian elderberry habitat is an important habitat for the beetle.

When the beetle was listed in 1980, the species was known from less than ten localities along the American River, the Merced River, and Putah Creek. By the time the *Valley Elderberry Longhorn Beetle Recovery Plan* was prepared in 1984, additional occupied localities had been found along the American River and Putah Creek. As of 2005, the California Range wide distribution extends from the Sacramento River in Shasta County, southward to an area along Caliente Creek in Kern County (CNDDB 2006).

The beetle is considered a poor disperser based on the spatial distribution of occupied shrubs and computer simulations of colonization and extinction patterns based on differing dispersal distances (Barr 1991; Collinge *et al.* 2001). Studies suggest that the beetle is unable to re-colonize drainages where the species has been extirpated, because of its limited dispersal ability (Barr 1991; Collinge *et al.* 2001). This data suggests that drainages unoccupied by the beetle remain unoccupied.

Threats to the Species – The beetle continues to be threatened by habitat loss and fragmentation, predation by the non-native Argentine ants (*Linepithema humile*) (Holway 1998; Huxel 2000; Huxel and Hastings 1999; Huxel *et al.* 2001; Ward 1987), and possibly other factors such as pesticide drift, non-native plant invasion, improper burning regimes, off-road vehicle use, rip-rap bank protection projects, wood cutting, and over-grazing by livestock.

Habitat destruction is one of the most significant threats to the beetle. Riparian forests, the primary habitat for the beetle, have been severely depleted throughout the Central Valley over the last two centuries as a result of agricultural and urban development (Huxel *et al.* 2001; Katibah 1984; Roberts *et al.* 1977; Thompson 1961). Riparian forests in the Central Valley have dwindled to discontinuous strips of widths currently measurable in yards rather than miles.

Destruction of riparian habitat in central California has resulted not only in a significant acreage loss, but also has resulted in beetle habitat fragmentation. Fahrig (1997) states that habitat fragmentation is only important for habitats that have suffered greater than 80 percent loss. Riparian habitat in the Central Valley, which has experienced greater than 90 percent loss by most estimates, would meet this criterion as habitat vulnerable to effects of fragmentation. Existing data suggests that beetle populations, specifically, are affected by habitat fragmentation. Barr (1991) found that small, isolated habitat remnants were less likely to be occupied by beetles than larger patches, indicating that beetle subpopulations are extirpated from small habitat fragments. Barr (1991) and Collinge *et al.* (2001) consistently found beetle exit holes occurring in clumps of elderberry bushes rather than isolated bushes, suggesting that isolated shrubs do not typically provide long-term viable habitat for this species.

Small, isolated subpopulations are susceptible to extirpation from random demographic, environmental, and/or genetic events (Shaffer 1981; Lande 1988; Primack 1998). When a sub-population becomes extinct, habitat fragmentation reduces the chance of recolonization from any remaining populations. The effect of habitat fragmentation likely is exacerbated by the poor dispersal abilities of the beetle (Collinge *et al* 2001; Talley 2005).

Habitat fragmentation not only isolates small populations, but also increases the interface between habitat and urban or agricultural land, increasing negative edge effects such as the invasion of non-native species (Huxel *et al.* 2001; Huxel 2000) and pesticide contamination (Barr 1991). Several edge effect-related factors may be related to the decline of the beetle.

The invasive Argentine ant (*Linepithema humile*) is a potential threat to the beetle (Huxel 2000). This ant is both an aggressive competitor and predator on native fauna that is spreading throughout riparian habitats in California and displacing assemblages of native arthropods (Ward 1987; Human and Gordon 1997; Holway 1998). A negative association between the presence of the ant and beetle exit holes was observed along Putah Creek in 1997 (Huxel 2000). This aggressive ant could interfere with adult mating or feeding behavior, or prey on eggs and larvae (e.g., Way *et al.* 1992). Surveys along Putah Creek found beetle presence where Argentine ants were not present or had recently colonized, but the beetle was absent from otherwise suitable sites where Argentine ants had become well-established (Huxel, 2000).

Direct spraying with pesticides and related pesticide drift is a potentially harmful factor for the beetle. A wide range of such spraying is done to control mosquitoes, crop diseases, and undesirable plants and insects. Although there have been no studies specifically focusing on the direct and indirect effects of pesticides on the beetle, evidence suggests that the species may be adversely affected by some pesticide applications.

Invasive exotic plant species may significantly alter the habitat of the beetle. Without adequate eradication and control measures, these non-native species may eliminate elderberry shrubs and other native plants.

Environmental Baseline

Vernal pool fairy shrimp and vernal pool tadpole shrimp

Status of the species within the action area - The action area is located in the Southeastern Sacramento Valley Vernal Pool Region, which contains almost 15 percent of the remaining vernal pool grasslands in the State of California (Keeler-Wolf et al. 1998). Part of the action area (766 acres) is also within the Western Placer County Core Area as designated in the

Recovery Plan (Service 2005). An "occurrence", which may represent a documented collection, observation, or museum specimen, is defined by the CNDDB as a location occupied by a species separated from other locations by at least 0.25 miles, and may contain multiple records. There are 106 occurrences of vernal pool fairy shrimp in the Southeastern Sacramento Valley Vernal Pool Region, of which 16 are within the City of Roseville (Service 2007a). There are 79 occurrences of vernal pool tadpole shrimp in the Southeastern Sacramento Valley Vernal Pool Region, of which one occurrence of vernal pool tadpole shrimp is within the City of Roseville.

The Open Space Preserves have approximately 76 acres of vernal pool habitat. Of the 34 Open Space Preserves covered by this Plan, 23 have been surveyed for crustaceans since 2002 and 11 have not been surveyed; 8 have documented occurrences of fairy shrimp and 1 has an occurrence of tadpole shrimp (Appendix D). None of the General Open Space have been surveyed for vernal pool crustaceans. The species are likely to be distributed in vernal pools throughout the action area.

Factors affecting the species within the action area – All Open Space Preserves in the action area have deed restrictions or conservation easements that protect the properties for conservation purposes and restrict development. General Open Space do not have deed restrictions or conservation easements, but are zoned as open space by the City and are typically within a floodplain and are unlikely to have any development proposed.

A bike trail was installed at Highland Reserve South without the Service being consulted; therefore the effects of that action on the vernal pool crustaceans were not analyzed. The bike trail probably secondarily impacted the habitat by reducing watersheds, increasing erosion and sedimentation due to construction, and changing water flow rates due to slope changes which likely indirectly adversely affected vernal pool crustaceans. The City shall consult with the Service on any future activities on the Open Space that may affect listed species.

Valley Elderberry Longhorn Beetle

Status of the species within the action area - There are eight occurrences of the beetle within Placer County (CNDDB 2011). No occurrences are within the action area; however, there is an occurrence less than two miles from a preserve. There are approximately 586 acres of riparian habitat within the Open Spaces that may have suitable habitat, but surveys have only been done on one Preserve (Stoneridge Cavitt Ranch). Stoneridge Cavitt Ranch was established as a compensation site for the beetle in 2003; 18 shrubs were transplanted and 849 elderberry

seedlings and associated natives were planted on the approximately 7 acre preserve. Beetle exit holes have been documented within the preserve. Additionally, there are approximately 25 additional elderberry shrubs within the Open Space.

Factors affecting the species within the action area — All Preserves in the action area have deed restrictions or conservation easements that preserve the properties for conservation purposes and restrict development. General Open Space do not have deed restrictions or conservation easements, but are zoned as open space by the City and are typically within a floodplain and are unlikely to have any development proposed. The City shall consult with the Service on any future activities on the Open Space that may affect listed species.

Effects of the Action

Vernal Pool Crustaceans

Restoration of vernal pool habitat under the Plan will cause primary impacts to up to 8 acres of listed vernal pool crustacean habitat for the lifetime of this biological opinion, with a maximum of 2 acres in any one year. Grading (using a skip loader or asphalt floater) and hand work required to restore or remediate habitat will result in the crushing of crustacean eggs. Collecting vernal pool material to serve as inoculum for restored pools will result in crushing, movement, and decreased viability of crustacean eggs. Effects due to restoration activities are ultimately expected to increase the quality and function of the vernal pool habitat and, therefore, benefit the vernal pool crustaceans.

Activities under the Plan will cause secondary impacts of up to 6 acres of listed vernal pool crustacean habitat for the lifetime of this biological opinion, with a maximum of 3 acres in any one year, due to City facility maintenance, replacement, or modification that causes ground disturbance within 250 feet of listed vernal pool crustacean habitat (e.g., replacement of a utility pole) per year. This does not include new construction. Habitat secondarily impacted includes all habitat supported by destroyed or modified upland areas, and all habitat otherwise damaged by disturbance that will be caused by the project. Ground disturbing activities in the watershed of vernal pools are expected to result in siltation when pools fill during the wet season following construction. Silt in pools supporting listed crustaceans may result in decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The hydrologic regime (e.g., change in rates of surface flow, reducing subsurface volumes) of the pools is not expected to be altered because no new construction is occurring.

Activities under the Plan will cause secondary impacts to an additional 0.06 acre due to the construction of the bike trail bridge at Highlands Reserve South. Construction will occur within close proximity (3 to 15 feet) of two pools. The secondarily affected habitat will have an altered watershed and increases in siltation, erosion, and sedimentation due to these activities which will cause indirect effects to the vernal pool crustaceans. Increases in siltation, erosion, and sedimentation in pools supporting listed crustaceans may result in decreased cyst viability,

decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons.

The management, protection, and restoration of the Open Space will ultimately provide a benefit for the vernal pool crustaceans. These actions will contribute to the long-term preservation and management of the vernal pool crustaceans and their habitat that is critical for the species' survival and recovery.

Valley Elderberry Longhorn Beetle

Activities under the Plan will directly impact, due to trimming, up to 10 elderberry shrubs each year (100 shrubs over the lifetime of the biological opinion) for Open Space and City facility maintenance and replacement purposes and restoration projects under the Plan. This includes: up to 50 stems measuring between one and three inches in diameter at ground level; 20 stems between three inches and five inches in diameter at ground level; and 10 stems five inches in diameter or greater at ground level. Trimming will result in harm or harassment of the beetle in the form of habitat modification and disruption of normal behavior patterns.

Activities under the Plan will indirectly impact up to 20 shrubs per year (200 shrubs over the lifetime of the biological opinion) for City facility maintenance, replacement, or modification that causes ground disturbance within 100 feet of an elderberry shrub. Beetles inhabiting these shrubs will be affected by dust, noise, and habitat disturbance.

The management, protection, and restoration of the Open Space will ultimately provide a benefit for the beetle. These actions would contribute to the long-term preservation and management of the beetle and its habitat that is critical for the species' survival and recovery.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed project are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Continued human population growth in the Roseville area is expected to drive further development of agriculture, cities, industry, transportation, and water resources in the foreseeable future. Because the action area is protected, future projects in the area do not pose a significant threat to the vernal pool crustaceans or the beetle within the action area.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp, vernal pool tadpole shrimp, and the beetle, the environmental baseline for the area covered by this biological opinion, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the proposed project is not likely to jeopardize the continued existence of the vernal pool

fairy shrimp, vernal pool tadpole shrimp, or the beetle. The Service reached this conclusion because the effects of the action would not reasonably be expected to reduce appreciably the likelihood of both the survival and recovery of the vernal pool fairy shrimp, vernal pool tadpole shrimp, or the beetle in the wild by reducing their reproduction, numbers, or distribution. Effects to the vernal pool fairy shrimp, vernal pool tadpole shrimp, and the beetle are small and spread out among Open Space Preserves and General Open Space and over time, and some effects are due to restoration activities which ultimately increase the quality and function of the vernal pool habitat. Additionally, the Open Space Preserves are protected in perpetuity which will benefit the long-term survival and recovery of the species.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to Section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the City for the exemption under 7(o)(2) to apply. The City has a continuing duty to regulate the activity that is covered by this incidental take statement. If the City: (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms; and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect for the following reasons: (1) these species have small body size, therefore finding a dead or injured specimen is unlikely; (2) these species occur in habitats that makes detection difficult; and (3) losses may be masked by seasonal and annual fluctuations in numbers, chance events, changes in water regime, or additional environmental disturbance. Due to the difficulties in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the activities under the Plan as the number of acres of suitable habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp that will become unsuitable for these species as a result of the action. The Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting a total of

14 acres (up to 8 acres for the lifetime of this biological opinion, with a maximum of 2 acres in any one year, due to restoration activities, and 6 acres for the lifetime of this biological opinion, with a maximum of 3 acres in any one year, due to facility maintenance) of vernal pool habitat impacted over the lifetime of the biological opinion, will be harmed, harassed, injured, or killed, as a result of the proposed action. Additionally, all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 0.06 acre of vernal pool habitat impacted at Highland Reserve South by construction of the bike trail bridge will be harmed, harassed, injured, or killed, as a result of the proposed action.

The Service expects that incidental take of the beetle will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of an injured or dead specimen unlikely. The species occurs in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of beetles that will be taken as a result of the proposed action, the Service is quantifying take incidental to the activities under the Plan as death, injury, harassment, and harm of all beetles inhabiting or otherwise utilizing the 30 elderberry shrubs (10 shrubs due to trimming, maximum of 80 stems per year, and 20 shrubs due to facility maintenance, replacement, or modification) affected annually, up to 300 shrubs over the lifetime of this biological opinion, as described in this biological opinion.

Upon implementation of the following reasonable and prudent measure, these levels of incidental take of the vernal pool crustaceans and the beetle will be exempted from prohibitions of take under section 9 of the Act.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to jeopardize the continued existence of the vernal pool crustaceans or the beetle.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the proposed project on the vernal pool crustaceans and the beetle:

1. All of the conservation measures as described in the project description, and as restated here in this biological opinion, must be fully implemented and adhered to.

Terms and Condition

In order to be exempt from the prohibitions of section 9 of the Act, the proposed project must comply with the following terms and condition, which implement the reasonable and prudent measure described above. These terms and condition are nondiscretionary.

1. The City shall adhere to the conservation measures described in the *Project Description* of this biological opinion.

2. The City shall provide a copy of this biological opinion and any subsequent amendments to the primary contractor and sub-contractors. The City shall clearly notify the primary contractor that he/she is responsible for implementing all requirements and obligations included within the biological opinion, and for educating and informing all other contractors involved in the project as to the requirements of the biological opinion.

3. The City shall consult with the Service on future activities that may adversely affect any listed species which are included in the Plan conceptually but not enough detail is known at the current time to evaluate effects.

Reporting Requirements

The Sacramento Fish and Wildlife Office is to be notified within one working day of the finding of any dead federally listed species or any unanticipated harm to the species addressed in this biological opinion. The Service contact person for this is the Deputy Assistant Field Supervisor at (916) 414-6600 and the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

The City must report to the Service immediately any information about take or suspected take of federally listed species not authorized in this biological opinion. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contact is the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to implement recovery actions, to help implement recovery plans, to develop information, or otherwise further the purposes of the Act. We propose the following conservation recommendations:

1. The City should work with the Service to implement the recovery criteria of the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.

2. The City should manage the Preserves covered by this Plan and other City properties, if possible, for the benefit of the vernal pool crustaceans and the beetle.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (a) the

amount or extent of incidental take is exceeded; (b) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (c) the action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this opinion; or (d) a new species is listed or critical habitat designated that may be affected by the action.

Please contact Lisa Ellis or Kellie Berry, Chief, Sacramento Valley Branch at (916) 414-6645 if you have questions regarding this biological opinion.

cc:
Mark Morse, City of Roseville, Community Development Department, Roseville, California
Nancy Haley, U.S. Army Corps of Engineers, Sacramento, California
Sarah VanderOhe, ECORP Consulting, Inc., Rocklin, California
Jinnah Benn, U.S. Army Corps of Engineers, Sacramento, California

LITERATURE CITED

Ahl, J.S.B. 1991. Factors affecting contributions of the tadpole shrimp, *Lepidurus packardi*, to its oversummering egg reserves. Hydrobiologia 212:137-143.

Barr, C.B. 1991. The Distribution, Habitat, and Status of the Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* Fisher (Insecta: Coleoptera: Cerambycidae). U.S. Fish and Wildlife Service, Sacramento, California. 134 pp.

Barclay, W.R. and A.W. Knight. 1984. Physio-chemical processes affecting production in a turbid vernal pool. Pages 126-142 IN S. Jain and P. Moyle, eds. Vernal pools and intermittent streams. Inst. Ecol. Pub. 28. Univ. Calif. Davis, California.

Bauder, E. T. 1987. Threats to San Diego vernal pools and a case study in altered pool hydrology. Pages 151-160 *in* T. S. Elias (ed). Conservation and management of rare and endangered plants. California Native Plant Society, Sacramento, California.

California Natural Diversity Database (CNDDB). 2006. Natural Heritage Division, California Department of Fish and Game. Sacramento, California.

California Natural Diversity Data Base (CNDDB). 2008. Rarefind. Natural Heritage Division, California Fish and Game, Sacramento, California.

California Natural Diversity Data Base (CNDDB). 2011. Rarefind. Natural Heritage Division, California Fish and Game, Sacramento, California.

Coe, T. 1988. The application of Section 404 of the Clean Water Act to Vernal Pools. Pages 356-358. IN J.A. Kusler, S. Daly, and G. Brooks, eds. Urban Wetlands. Proceedings of the National Wetland Symposium. Oakland, California.

Collinge, S.K., M. Holyoak, C.B. Barr, and J.T. Marty. 2001. Riparian habitat fragmentation and population persistence of the threatened valley elderberry longhorn beetle in central California. Biological Conservation 100:103-113.

Fahrig, L. 1997. Relative Effects of Habitat Loss and Fragmentation on Population Extinction. Journal of Wildlife Management. 61:603-610.

Donald, D.B. 1983. Erratic occurrence of anostracans in a temporary pond: colonization and extinction or adaptation to variations in annual weather. Canadian Journal of Zoology 61:1492-1498.

Driver, E.A. 1981. Caloric value of pond invertebrates eaten by ducks. Freshwater Biology 11:579-581.

Eng, L.L., D. Belk, and C.H. Erickson. 1990. California Anostraca: Distribution, habitat, and status. J. Crustacean Biology. 10(2):247-277.

Eriksen, C. H. and D. Belk. 1999. Fairy shrimps of California's puddles, pools, and playas. Mad River Press, Eureka, California. 196 pages.

Fugate, M.L. 1992. Speciation in the fairy shrimp genus *Branchinecta* (Crustacea: Anostraca) from North America. Ph.D. dissertation. Department of Biology, University of California, Riverside, California.

Gilpin, M.E. and M.E. Soule. 1986. Minimum viable populations: processes of species extinction. Pages 18-34 IN M.E. Soule, ed. Conservation biology: the science of scarcity and diversity. Sinauer Associates, Inc.; Sunderland, Massachusetts.

Goodman, D. 1987a. The demography of chance extinction. Pages 11-19 *in* M. E. Soulé (ed.). Conservation biology: the science of scarcity and diversity. Sinauer Associates, Inc. Sunderland, Massachusetts.

_____. 1987b. How do any species persist? Lessons for conservation biology. Conservation Biology 1: 59-62.

Halstead, J.A., and J.A. Oldham. 1990. Revision of the nearctic Desmocerus Audinet-Serville with emphasis on the Federally threatened valley elderberry longhorn beetle (Coleoptera: Cerembycidae). Environmental Section Staff Report, Kings River Conservation District, Fresno, California.

Helm, B. 1998. Biogeography of eight large branchiopods endemic to California. Pages 124 - 139 *in*: C. W. Witham, E.T. Bauder, D. Belk, W.R. Ferren, Jr., and R. Ornduff (eds.).Ecology, conservation, and management of vernal pool ecosystems - proceedings from a 1996 conference, California Native Plant Society, Sacramento, California. 285 pages.

Holland, R.F. 1978. The geographic and edaphic distribution of vernal pools in the Great Central Valley, California. California Native Plant Society, Special Publ. 4:1-12.

Holland, R. F. and S. Jain. 1988. Vernal Pools. Pages 515-533 *in* M. E. Barbour and J. Major, (eds.). Terrestrial Vegetation of California. California Native Plant Society. Sacramento, California.

Holway, D.A. 1998. Distribution of the Argentine ant (*Linepithema humile*) in Northern California. Conservation Biology 9:1634-1637.

Huxel, G.R. 2000. The effects of Argentine ant on the threatened valley elderberry longhorn beetle. Biological Invasions 2:81-85.

Huxel, G. R. and A. Hastings. 1999. Habitat loss, fragmentation, and restoration. Restoration Ecology 7:1-7.

Huxel, G., Holyoak, M., and Talley, T. 2001. Effects of habitat loss and natural enemies of the valley elderberry longhorn beetle. Riparian Habitat and Floodplains Conference. Sacramento, California.

Katibah, E. F. 1984. A Brief History of Riparian Forests in the Central Valley of California. Pages 23-29 *in* Warner, R. E. And K. M. Hendrix (eds.). California riparian systems: ecology, conservation, and productive management. University of California Press, Berkeley, California.

Keeler-Wolf, T., D.R. Elam, K. Lewis, and S.A. Flint. 1998. California vernal pool assessment preliminary report. California Department of Fish and Game, Sacramento, California.

Krapu, G.L. 1974. Foods of breeding pintails in North Dakota. J. Wild. Manag. 38(3):408-417.

Lande, R. 1988. Genetics and demography in biological conservation. Science 241:1455-1460.

Pennak, R.W. 1989. Freshwater invertebrates of the United States. Wiley & Sons. New York, New York.

Primack, R.B. 1998. Essentials of Conservation Biology. Second Edition. Sinaur Associates. Sunderland, Massachusetts.

Roberts, W.G., J.G. Howe, and J. Major. 1977. A Survey of Riparian Forest Flora and Fauna in California. Pages 3-20 *in* A. Sands (ed.) Riparian Forests in California: their Ecology and Conservation. University of California, Davis, California.

Simovich, M.A., R.C. Brusca and J.L. King. 1992. Invertebrate survey, PGT-PG&E/Bechtel Pipeline Expansion Project. University of San Diego, San Diego, California.

Shaffer, M.L. 1981. Minimum Populations Sizes for Species Conservation. Bioscience 31:131-134.

Swanson, G.A., M.I. Meyer and J.R. Serie. 1974. Feeding ecology of breeding blue-winged teals. J. Wild. Manag. 38:396-407.

Talley, T.S. 2005. Spatial ecology and conservation of the Valley elderberry longhorn beetle. Ph.D. dissertation. University of California, Davis, California.

Talley, T.S., E. Fleishman, M. Holyoak, D. Murphy, and A. Ballard. 2007. Rethinking a rare-species conservation strategy in an urbanizing landscape: The case of the Valley elderberry longhorn beetle. Biological Conservation 135:21-32.

Thompson, K. 1961. Riparian forests of the Sacramento Valley, California. Annals of the Association of American Geographers 51:294-315.

U.S. Fish and Wildlife Service (Service). 1980. Listing the valley elderberry longhorn beetle as a threatened species with critical habitat. Friday, August 8, 1980. Sacramento, California. Federal Register 45:52803-52807.

_____. 1984. Valley Elderberry Longhorn Beetle Recovery Plan. Portland, Oregon. 62 pp.

_____. 1994. Endangered and threatened wildlife and plants; determination of endangered status for the conservancy fairy shrimp, longhorn fairy shrimp, and vernal pool tadpole shrimp; and threatened status for the vernal pool fairy shrimp. Federal Register 59:48136-48153.

_____. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Region 1. Portland, Oregon.

_____. 2007a. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-year Review: Summery and Evaluation. September 2007.

_____. 2007b. Vernal Pool Tadpole Shrimp (*Lepidurus packardi*) 5-year Review: Summery and Evaluation. September 2007.

Vaghti, M.G., M. Holyoak, A. Williams, T.S. Talley, A.K. Fremier and S.E. Greco. Submitted. The ecology and restoration of *Sambucus mexicana* (blue elderberry) in human-altered riparian systems, with implications for threatened *Desmocerus californicus dimorphus* (Valley elderberry longhorn beetle). Restoration Ecology.

Vollmar, J. 2002. Wildlife and Rare Plant Ecology of Eastern Merced County's Vernal Pool Grasslands. Vollmar Consulting. Berkeley, California. 446 pp.

Ward, P.S. 1987. Distribution of the introduced Argentine ant (*Iridomyrex humilis*) in natural habitats of the lower Sacramento Valley and its effects on the indigenous ant fauna. Hilgardia 55:1-16.

Warner, R.E. and K.M. Hendrix. 1985. Riparian resources of the Central Valley and California Desert. California Department of Fish and Game. 226 pp.

Way, M.J., M.E. Cammell, and M. R. Paiva. 1992. Studies on egg predation by ants (Hymenoptera: Formicidae) especially on the Eucalyptus Borer *Phoracantha semipunctata* (Coleoptera: Cerambycidae) in Portugal. Bulletin of Entomological Research 82:425-432.

Zelder, P. H. 1985. The Ecology of Southern California Vernal Pools: A community Profile. U.S. Fish & Wildlife Service Biological Report 85(7.11). 136 pp.

Appendix A. Individual Open Space Preserves

Preserve Name (Map Number on Figure 1)	Preserve Acreage	Service File Number
Antelope Creek Bridge (25)*	19±	n/a
Commerce Center 65 (01)	19±	1-1-96-F-0001, 1-1-98-F-0175
Del Webb (27)	112±	n/a
Diamond Oaks East	4±	n/a
Fiddyment 44, a.k.a. Woodlake Village (10)	6±	1-1-05-F-0037
Foothill Business Park (02)	46±	n/a
Highland Reserve North (11)	43±	1-1-00-F-0016
Highland Reserve South/Heritage at Diamond Oaks (12, 34)	140±	1-1-97-F-142, 1-1-99-I-1518
Johnson Ranch East* (19)	18±	n/a
Johnson Ranch Parcel 9* (20)	7±	n/a
Kerry Downs* (21)	8±	n/a
Mahany Park* (22)	68±	n/a
Mourier 140, a.k.a. Roseville 140 (13)	13±	1-1-97-F-130
Mourier 160, a.k.a. Roseville 160 (14)	38±	1-1-99-F-0147
Olympus Oaks/Olympus Pointe/Stoneridge Cavitt Ranch/Vista Oaks (06,07, 16, 32)	301±	96-F-0066
Parkside Industrial Center (03)	37±	n/a
Pheasant Run* (28)	4±	n/a
Ridgewood* (23)	25±	n/a
Rose Park (04)	15±	1-1-04-F-0220
Roseville 150* (31)	21±	n/a
Roseville Telephone Company* (33)	5±	n/a
Roseville Technology Park, a.k.a. Longmeadow (05)	8±	1-1-98-F-0171
Sierra Crossing* (29)	2±	n/a
Silverado Oaks Urban Reserve (15)	59±	n/a
West Roseville Specific Plan (08)	737±	1-1-03-F-0013
Woodcreek East, a.k.a. Diamond Woods (09)	59±	1-1-99-F-0075
Woodcreek North (17)	45±	1-1-97-0006
Woodcreek Oaks, a.k.a. Hewlett Packard (26)	43±	1-1-96-I-1433
Woodcreek Oaks/City Preserve* (24)	20±	n/a
Woodcreek West (18)	52±	1-1-99-F-0111
TOTAL:	**1992±**	

*Does not have an operations and management plan.

Appendix B. Conservation measures to be implemented for each action likely to adversely affect listed species. Highlighted boxes indicate which conservation measure will be done for each activity.

		Conservation Measures																
Activities Likely to Adversely Affect	**Described in Plan Section(s)**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Vegetation Management - Trimming of Elderberry Shrubs	3.7.1																	
Restoration/Correction of Vandalism Within Vernal Pools	3.7.1																	
Bike Trail Maintenance and Replacement	3.7.1, 9.1.1																	
Utilities - Repair and Replacement	3.7.1, 9.1.6																	

Appendix C. Conservation measures to be implemented for each action not likely to adversely affect listed species. Highlighted boxes indicate which conservation measure will be done for each activity.

		Conservation Measures																
Activities Not Likely to Adversely Affect	**Described in Plan Section(s)**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Vegetation Management - Mechanical	7.2.2, 7.2.3, 7.3.2, 7.3.3, 7.4.2, 7.4.3, 8.2.2, 8.2.3, 8.5.1, 9.1.3, 9.1.4, Appendix 5, Appendix 25		■	■		■	■	■	■		■	■	■	■	■	■		■
Vegetation Management - Grazing	7.3.2, 8.5.3, Appendix 26								■			■						
Vegetation Management - Herbicides	3.7.1, 8.2.3, 8.5.5, Appendix 5, Appendix 25					■			■		■	■	■	■	■			
Vegetation Management - Outfall, Drainage, Culvert, and Bridge Maintenance	8.2.3, 9.1.4	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■
Tree maintenance and removal	7.2.3, 7.4.3,		■			■	■	■	■		■	■	■	■	■	■	■	■
Biological Monitoring*	6, 8.4											■						
Restoration/Correction of Vandalism Outside of Vernal Pools	7.1.2, 7.3.1, 7.4.1, 8.3 (all)		■	■	■	■	■	■	■		■	■	■	■	■			
Native Tree Planting	7.2.1, 7.4.1, 11.0						■	■	■			■						
Educational Activities	11.0						■					■						
Beaver Management	7.2.4	■	■		■	■	■	■	■		■	■	■	■	■	■	■	■
Trash Removal	8.2.1											■						
Fence, Gate, Bollard, and Signage Maintenance and Replacement	8.2.4, 8.2.5, 8.2.6		■	■		■	■	■	■		■	■	■	■	■	■	■	■
Erosion Control	8.2.3, 8.3.6	■	■		■	■	■	■	■		■	■	■	■	■	■	■	■
Firebreaks	8.5								■		■	■	■	■	■	■	■	■
Water Quality Feature Maintenance	9.1.2, 9.1.3	■	■		■	■	■	■	■		■	■	■	■	■	■	■	■

* Vernal pool invertebrate monitoring take coverage provided by monitoring biologist's 10(a)(1)(A) permit.

Appendix D. Survey and Species Status of Open Space Preserves.

Preserve number in Figure 1	Preserve	Surveys done?	Species detected	Other documented occurrence
1	Commerce Center 65	Yes		
2	Foothill Industrial	Yes		
3	Park Side Industrial Center	No		
4	Rose Park	Yes		
5	Roseville Technology Park (Longmeadow)	Yes		
6	Olympus Pointe	Yes		
7	Stoneridge Olympus Oaks	Yes		
8	West Roseville Specific Plan	Yes	Fairy shrimp	
9	Woodcreek East (Diamond Woods)	Yes		
10	Fiddyment 44 (Woodlake Village)	Yes		
11	Highland Reserve North	Yes		
12	Highland Reserve South	Yes	Fairy shrimp	
13	Mourier 140 (Roseville 140)	Yes	Fairy shrimp	
14	Mourier 160 (Roseville 160)	Yes	Fairy shrimp	
15	Silverado Oaks Urban Reserve	Yes	Fairy shrimp	
16	Stoneridge Cavitt Ranch	No		
17	Woodcreek North	Yes	Fairy shrimp	
18	Woodcreek West	Yes	Fairy shrimp	
19	Johnson Ranch East	Yes		
20	Johnson Ranch Parcel 9	No		
21	Kerry Downs	Yes		
22	Mahany Park Preserve	Yes		
23	Ridgewood	Yes		
24	Woodland Oaks City Preserve	No		Tadpole shrimp
25	Antelope Creek Bridge	No		
26	Wood Creek Oaks Preserve	Yes		
27	Del Webb	Yes		Fairy shrimp
28	Pheasant Run Preserve	No		
29	Sierra Crossing Preserve	No		
30	Diamond Oaks East	No		
31	Roseville 150	No		
32	Vista Oaks	No		
33	Roseville Telephone	No		
34	HRS/Heritage at Diamond Oaks	Yes		