Figure 4.
Natural Resources Conservation Service Soil Types

Map Features

Study Area - 126.71 acres

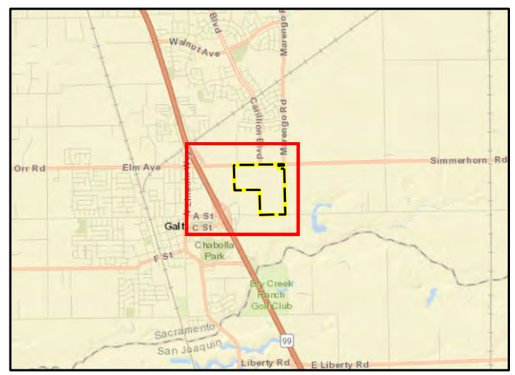
Series Number - Series Description

213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes

214 - San Joaquin silt loam, 0 to 3 percent slopes

219 - San Joaquin-Urban land complex, 0 to 2 percent slopes

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



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Location: N:\2018\2018-180 The Dairy-Galt\MAPS\Soils_and_Geology\Soils\SR_Soils_20181128.mxd (AMM)-amyers 4/15/2019

2018-180 Simmerhorn Ranch

Scale in Feet
0 600

Photo Source: USGS 2009 (SACOG)

Map Date: 4/15/2019

4.2 Valley Brodiaea

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is a bulbiferous perennial herb that occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within valley and foothill grassland (CNPS 2019). Valley brodiaea blooms from April through May (sometimes June) and is known to occur at elevations ranging from 32 feet to 1,100 feet above MSL (CNPS 2019). Valley brodiaea is endemic to California; the current range of this species includes Butte, Calaveras, Nevada, Placer, Sacramento, San Joaquin, Sutter, and Yuba counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands) and Stream/Creeks (drainage ditches) within the Project site provide marginal habitat for this species. Valley brodiaea has low potential to occur within the Project site.

4.3 Succulent Owl's Clover

Succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) is listed as threatened pursuant to the federal ESA, endangered pursuant to the California ESA, and is designated as a CRPR 1B.2 species. This species is a hemiparasitic herbaceous annual that occurs in vernal pools that are often acidic (CNPS 2019). Succulent owl's clover blooms from April to May and is known to occur at elevations ranging from 164 to 2,461 feet above MSL (CNPS 2019). Succulent owl's clover is endemic to California; the current range of this species includes Fresno, Madera, Merced, Mariposa, San Joaquin, and Stanislaus counties (CNPS 2019).

There is one documented CNDDB occurrence of this species located within five miles of the Project site (CDFW 2019). The Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Project site provide marginal habitat for this species. Succulent owl's clover has low potential to occur within the Project site.

4.4 Parry's Rough Tarplant

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in valley and foothill grassland with alkaline and vernally mesic soils, seeps, and sometimes roadsides (CNPS 2019). Parry's rough tarplant blooms from May to October and is known to occur at elevations ranging from sea level to 328 feet above MSL (CNPS 2019). Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and ruderal vegetation in the Low-Density Development portion of the Project site provide marginal habitat for this species. Parry's rough tarplant has low potential to occur within the Project site.

4.5 Dwarf Downingia

Dwarf downingia (*Downingia pusilla*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is an herbaceous annual that occurs in vernal pools and mesic areas in valley and foothill grasslands (CNPS 2019). Dwarf downingia also appears to have an affinity for slight disturbance since it has been found in manmade features such as tire ruts, scraped depressions, stock ponds, and roadside ditches (Baldwin et al. 2012, CDFW 2019). This species blooms from March through May and is known to occur at elevations ranging from 3 to 1,460 feet above MSL (CNPS 2019). The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, SSHCP-Modeled Species Habitat is present within the Project site for dwarf downingia and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) and Stream/Creeks (drainage ditches) within the Project site provide suitable habitat for this species. Dwarf downingia has potential to occur within the Project site.

4.6 Boggs Lake Hedge-Hyssop

Boggs Lake hedge-hyssop (*Gratiola heterosepala*) is not listed pursuant to the federal ESA, but is listed as endangered pursuant to the California ESA, and a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes, swamps, lake margins, and vernal pools (CNPS 2019). Boggs Lake hedge-hyssop blooms from April through August and is known to occur at elevations ranging from 33 to 7,792 feet above MSL (CNPS 2019). The current range of this species in California includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma, and Tehama counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, SSHCP-Modeled Species Habitat is present within the Project site for Boggs lake hedge-hyssop and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Project site provide suitable habitat for this species. Boggs lake hedge-hyssop has potential to occur within the Project site.

4.7 Hogwallow Starfish

Hogwallow starfish (*Hesperevax caulescens*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in mesic, clay areas within valley and foothill grassland, and shallow vernal pools, sometimes in alkaline areas (CNPS 2019). Hogwallow starfish blooms from March through June and is known to occur from sea level to 1,657 feet above MSL (CNPS 2019). Hogwallow starfish is endemic to California; the current range of this species includes Alameda, Amador, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Merced, Monterey, Napa, Sacramento, San Diego, San Joaquin, San Luis Obispo, Solano, Stanislaus, Sutter, Tehama, and Yolo counties, and is considered to be extirpated in Napa and San Diego counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and

ruderal vegetation in the Low-Density Development portion of the Project site provide marginal habitat for this species. Hogwallow starfish has low potential to occur within the Project site.

4.8 Ferris' Goldfields

Ferris' goldfields (*Lasthenia ferrisiae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in alkaline and clay soils in vernal pools (CNPS 2019). Ferris' goldfields blooms between February and May and is known to occur at elevations ranging from 66 to 2,297 feet above MSL (CNPS 2019). Ferris' goldfields is endemic to California; its current range includes Alameda, Butte, Contra Costa, Colusa, Fresno, Kings, Kern, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, Solano, Stanislaus, Tulare, Ventura, and Yolo counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Project site provide marginal habitat for this species. Ferris' goldfields has low potential to occur within the Project site.

4.9 Legenere

Legenere (*Legenere limosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005). Legenere blooms from April through June and is known to occur at elevations ranging from 3 to 2,887 feet above MSL (CNPS 2019). Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties and is believed to be extirpated from Stanislaus County (CNPS 2019).

There are two documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). SSHCP-Modeled Species Habitat is present within the Project site for legenere and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) provide marginal habitat for this species. Legenere has low potential to occur within the Project site.

4.10 Heckard's Pepper-Grass

Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs on alkaline flats within valley and foothill grasslands (CNPS 2019). Heckard's pepper-grass blooms from March through May and is known to occur at elevations ranging from 7 to 656 feet above MSL (CNPS 2019). Heckard's pepper-grass is endemic to California; the current range of this species includes Glenn, Merced, Sacramento, Solano, and Yolo counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Valley Grassland and ruderal vegetation in the Low-Density Development

portion of the Project site provides marginal habitat for this species. Heckard's pepper-grass has low potential to occur within the Project site.

4.11 Hoary Navarretia

Hoary navarretia (*Navarretia eriocephala*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs in vernally mesic areas within cismontane woodland and valley and foothill grassland (CNPS 2019). Hoary navarretia blooms between May and June and is known to occur at elevations ranging from 345 to 1,312 feet above MSL (CNPS 2019). Hoary navarretia is endemic to California; its current range includes Amador, Calaveras, El Dorado, Placer, and Sacramento counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and ruderal vegetation in the Low-Density Development portion of the Project site provide marginal habitat for this species. Hoary navarretia has low potential to occur within the Project site.

4.12 Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not listed pursuant to the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a rhizomatous, herbaceous perennial that occurs in shallow marshes and freshwater swamps (CNPS 2019). Sanford's arrowhead blooms from May through November and is known to occur at elevations ranging from sea level to 2,133 feet above MSL (CNPS 2019). Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, Tulare, Ventura, and Yuba counties; it is believed to be extirpated from both Orange and Ventura counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, SSHCP-Modeled Species Habitat is present within the Project site for Sanford's arrowhead and the Stream/Creeks (drainage ditches) within the Project site provide suitable habitat for this species. Sanford's arrowhead has potential to occur within the Project site.

4.13 Saline Clover

Saline clover (*Trifolium hydrophilum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools (CNPS 2019). Saline clover blooms between April and June and is known to occur at elevations ranging from sea level to 984 feet above MSL (CNPS 2019). Saline clover is endemic to California; its current range includes Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma and Yolo counties; however, distribution and identity are uncertain in Colusa County (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Project site (CDFW 2019). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and

ruderal vegetation in the Low-Density Development portion of the Project site provide marginal habitat for this species. Saline clover has low potential to occur within the Project site.

5.0 RESULTS

ECORP conducted special-status plant surveys on April 24, 2019 and June 20, 2019 for the Simmerhorn Ranch Project. No special-status plant species were observed during these surveys. There are no Sensitive Natural Communities as defined by CDFW within the Project site (CDFW 2019).

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LIST OF ATTACHMENTS

ATTACHMENT A

Statement of Qualifications

Attachment A

Statement of Qualifications

Casey Peters

Associate Biologist, ECORP Consulting, Inc.

Casey Peters is a botanist/biologist with experience in general floristic surveys, special-status plant surveys, and restoration planning, implementation, and monitoring. Dr. Peters holds a PhD in Ecology with an emphasis in plant communities and a certificate in conservation management. He has conducted scientific research in plant communities throughout California including annual grassland, oak savannah, mixed-conifer forest, sub-alpine forest, coastal dune, coastal prairie, annual forbland, and desert plant communities. He has also taught courses in California floristics and plant ecology. Dr. Peters has extensive experience conducting special-status plant surveys.

Daniel Wong

Associate Biologist, ECORP Consulting, Inc.

Mr. Wong is a graduate from University of California, Davis, with five years of professional experience. In the past, his work included forest stand evaluations, fuel and coarse woody debris assessments, biomass evaluation and collection, channel erosion assessments, and utilization assessment. Additionally, Mr. Wong have has extensive lab data management skills, with experience in managing databases and in Geographic Information Systems. His past experience with the U.S. Forest Service includes collecting data, data analysis, and creating a summary report for the Moonlight Fire Restoration Plan. Mr. Wong's background focuses on restoration ecology and ecological management principles, and has also been part of academic research regarding the ecology of invasive species and forest pathogens.

With ECORP Consulting, Inc., Mr. Wong has assisted project managers and senior biologists with various tasks such as: regulatory permitting and documentation, open space management, biological monitoring, federally listed large branchiopod surveys, floristic surveys, wetland delineation, Valley elderberry longhorn beetle surveys, preconstruction raptor and nesting bird surveys, and western pond turtle surveys.

ATTACHMENT B

Observed Plant Species (April 24 and June 20, 2019)

Simmerhorn Ranch Project

Attachment B - Observed Plant Species (April 24 and June 20, 2019)

SCIENTIFIC NAME	COMMON NAME
ADOXACEAE	**MUSKROOT FAMILY**
Sambucus nigra ssp. caerulea	Blue elderberry
ANACARDIACEAE	**SUMAC FAMILY**
Schinus terebinthifolius	Brazilian pepper tree
Toxicodendron diversilobum	Poison oak
ASCLEPIACEAE	**MILKWEED FAMILY**
Asclepias fasciularis	Narrow-leaf milkweed
ASTERACEAE	**SUNFLOWER FAMILY**
*Anthemis cotula**	Stinking chamomile
*Carduus pycnocephalus**	Italian thistle
*Chicorum intybus**	Chichory
Erigeron canadensis	Horseweed
Gnaphalium palustre	Lowland cudweed
*Helminthotheca echioides**	Bristly oxtongue
*Lactuca serriola**	Prickly lettuce
*Leontodon saxatilis**	Hairy hawkbit
*Matricaria discoidea**	Pineapple weed
*Matricaria discoidea**	Pineapple weed
*Senecio vulgaris**	Common groundsel
*Silybum marianum**	Milk thistle
*Sonchus asper**	Prickly sowthistle
*Sonchus oleraceus**	Common sowthistle
BORAGINACEAE	**BORAGE FAMILY**
Plagiobothrys stipitatus	Slender popcorn-flower
BRASSICACEAE	**MUSTARD FAMILY**
Cardamine oligosperma	Few-seed bitter-cress
*Hirschfeldia incana**	Shortpod mustard
*Lepidium latifolium**	Broad-leaf pepper grass
*Raphanus raphinastrum**	Charlock
CARYOPHYLLACEAE	**PINK FAMILY**
*Spergularia media**	Middle-size sandspurry

Simmerhorn Ranch Project

Attachment B - Plant Species Observed (April 24 and June 20, 2019)

SCIENTIFIC NAME	COMMON NAME
CARYOPHYLLACEAE	**PINK FAMILY**
*Spergularia rubra**	Purple sandspurry
*Stellaria media**	Common chickweed
CHENOPIDIACEAE	**GOOSEFOOT FAMILY**
*Chenopodium album**	Lambs quarters
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
*Convolvulus arvensis**	Field bindweed
CRASSULACEAE	**STONECROP FAMILY**
*Crassula tillaea**	Mediterranean pygmy weed
CYPERACEAE	**SEDGE FAMILY**
Cyperus eragrostis	Tall flatsedge
Eleocharis macrostachya	Creeping spikerush
EUPHORBIACEAE	**SPURGE FAMILY**
Croton setiger	Turkey mullein
Euphorbia serpillifolia	Thyme-leaved spurge
*Triadica sebifera**	Chinese tallow
FABACEAE	**LEGUME FAMILY**
*Medicago polymorpha**	Bur clover
*Medicago sativa**	Alfalfa
*Robinia pseudoacacia**	Black locust
*Trifolium hirtum**	Rose clover
*Vicia sativa**	Common vetch
*Vicia villosa**	Winter vetch
FAGACEAE	**OAK FAMILY**
Quercus agrifolia	Coast live oak
Quercus lobata	Valley oak
Quercus wislizeni	Interior live oak
GERANIACEAE	**GERANIUM FAMILY**
*Erodium botrys**	Broad leaf filaree
*Erodium cicutarium**	Cut leaf filaree
*Erodium moschatum**	White stemmed filaree

Simmerhorn Ranch Project

Attachment B - Plant Species Observed (April 24 and June 20, 2019)

SCIENTIFIC NAME	COMMON NAME
GERANIACEAE	**GERANIUM FAMILY**
*Geranium dissectum**	Cut-leaved geranium
JUGLANDACEAE	**WALNUT FAMILY**
Juglans californica	California black walnut
JUNCACEAE	**RUSH FAMILY**
Juncus balticus ssp. ater	Baltic rush
Juncus bufonius	Toad rush
LYTHRACEAE	**LOOSESTRIFE FAMILY**
*Lythrum hyssopifolia**	Hyssop loosestrife
MALVACEAE	**MALLOW FAMILY**
*Malva parviflora**	Cheeseweed
Malvella leprosa	Alkali-mallow
MARTYNIACEAE	**UNICORN-PLANT FAMILY**
Proboscidea sp.	Devil's claw
MONTIACEAE	**MINER'S LETTUCE FAMILY**
Claytonia perfoliata	Miner’s lettuce
MORACEAE	**MULBERRY FAMILY**
*Morus alba**	White mulberry
MYRSINACEAE	**MYRSINE FAMILY**
*Lysimachia arvensis**	Scarlet pimpernel
OLEACEAE	**OLIVE FAMILY**
Fraxinus sp.	Horticultural ash
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Epilobium brachycarpum	Panicled willow-herb
Epilobium campestre	Smooth willow-herb
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Plantago lanceolata**	English plantain
*Plantago major**	Broad-leaf plantain
POACEAE	**GRASS FAMILY**
*Avena barbata**	Slender wild oat
*Avena sativa**	Cultivated oat

Simmerhorn Ranch Project

Attachment B - Plant Species Observed (April 24 and June 20, 2019)

SCIENTIFIC NAME	COMMON NAME
POACEAE	**GRASS FAMILY**
*Brachycarpon distichyon**	Purple false brome
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft brome
*Bromus madritensis ssp. rubens**	Red brome
*Cynodon dactylon**	Bermuda grass
*Festuca myuros**	Rat-tail vulpia
*Festuca perennis**	Italian Ryegrass
*Glyceria declinata**	Mannagrass
*Hordeum murinum ssp. glaucum**	Foxtail barley
*Paspalum dilatatum**	Dallis grass
*Phalaris aquatica**	Harding grass
*Poa annua**	Annual bluegrass
*Polypogon monspeliensis**	Rabbitsfoot grass
*Triticum aestivum**	Cultivated wheat
POLYGONACEAE	**BUCKWHEAT FAMILY**
Persicaria sp.	Smartweed
Polygonum aviculare ssp. depressum	Prostrate knotweed
*Rumex crispus**	Curly dock
RANUNCULACEAE	**BUTTERCUP FAMILY**
Ranunculus bonariensis var. trisepalus	Carter's buttercup
*Ranunculus muricatus**	Spiny-fruit buttercup
ROSACEAE	**ROSE FAMILY**
*Prunus dulcis**	Almond (cultivated)
*Rubus armeniacus**	Himalayan blackberry
RUBIACEAE	**MADDER FAMILY**
Galium aparine	Common bedstraw
SALICACEAE	**WILLOW FAMILY**
Populus fremontii	Fremont's cottonwood
Salix exigua	Sandbar willow

Simmerhorn Ranch Project

Attachment B - Plant Species Observed (April 24 and June 20, 2019)

SCIENTIFIC NAME	COMMON NAME
SIMAROUBACEAE	**QUASSIA FAMILY**
*Ailanthus altissima**	Tree-of-heaven
TYPHACEAE	**CATTAIL FAMILY**
Typha angustifolia	Narrow-leaf cattail
Typha latifolia	Broad-leaf cattail
VITACEAE	**GRAPE FAMILY**
Vitis californica	California wild grape
ZYGOPHYLLACEAE	**CALTROP FAMILY**
*Tribulus terrestris**	Puncture vine

Aquatic Resources Delineation

Simmerhorn Ranch Project

Sacramento County, California

Prepared For:

Elliott Homes, Inc.

May 2019

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, construction monitoring, and compliance reporting.

Citation: ECORP Consulting, Inc. 2019. Aquatic Resources Delineation for Simmerhorn Ranch Project. Prepared for Elliott Homes, Inc. Rocklin, California. May 2019.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AJD	Approved Jurisdictional Determination
CARI	California Aquatic Resource Inventory
CFR	Code of Federal Register
CWA	Clean Water Act
CWR	Clean Water Rule
FAC	Facultative
FACW	Facultative wetland
FR	Federal Register
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
OBL	Obligate
OHWM	Ordinary high water mark
ORM	USACE Operations and Maintenance Business Information Link Regulatory Module
PJD	Preliminary Jurisdictional Determination
SFEI	San Francisco Estuary Institute
Study Area	±126.71-acre Simmerhorn Ranch Project
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

1.0 INTRODUCTION

On behalf of Elliott Homes, Inc., ECORP Consulting, Inc. conducted an aquatic resources delineation for the ±126.71-acre Simmerhorn Ranch Project (Study Area) located in Sacramento County, California. The Study Area is located east of Highway 99, south of Simmerhorn Road, and north of Boessow Road (Figure 1. *Study Area Location and Vicinity*). The Study Area corresponds to a portion of Section 26, Township 5 North, and Range 6 East (Mount Diablo Base and Meridian) of the "Galt, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1960). The approximate center of the Study Area is located at 38.260029° latitude and -121.284664° longitude within the Upper Cosumnes and Upper Mokelumne watersheds (Hydrologic Unit Code #18040013 and #18040012, respectively, Natural Resources Conservation Service [NRCS], et al. 2016). Driving directions to the Study Area are included as Attachment A.

This report describes aquatic resources identified within the Study Area that may be regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Sacramento District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016a). The aquatic resource boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the Study Area and are subject to modification following the USACE verification process.

The purpose of this report is to provide adequate information to USACE for the issuance of a Preliminary Jurisdictional Determination (PJD).

2.0 REGULATORY SETTING

2.1 Waters of the United States

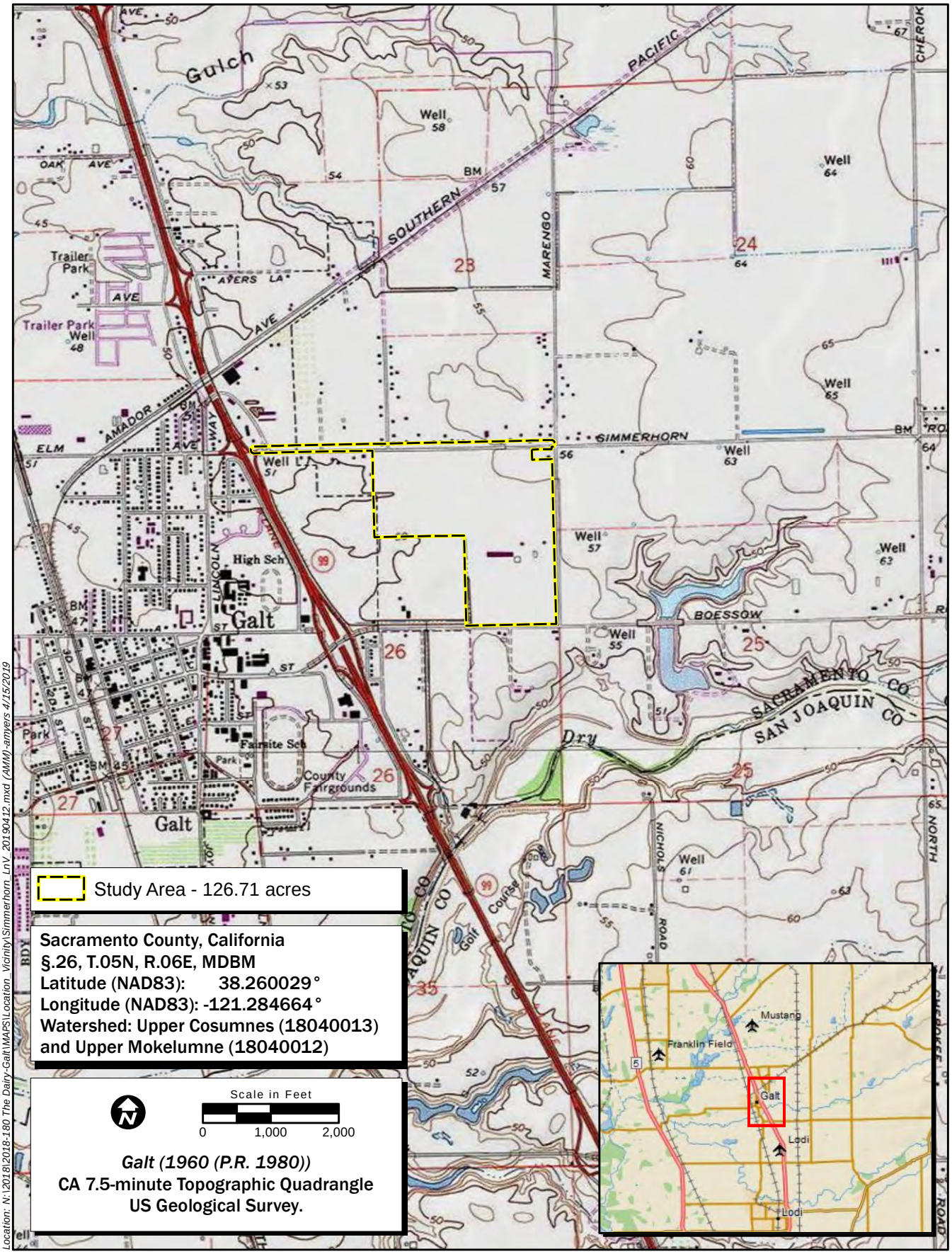
This report describes aquatic resources, including wetlands, that may be regulated by USACE under Section 404 of the federal CWA.

2.1.1 Wetlands

Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [51 Federal Register (FR) 41250, Nov. 13, 1986, as amended at 58 FR 45036, Aug. 25, 1993]. Wetlands can be perennial or intermittent.

2.1.2 Other Waters

Other waters are nontidal, perennial, and intermittent watercourses and tributaries to such watercourses [51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, August 25, 1993]. The limit of USACE jurisdiction for nontidal watercourses (without adjacent wetlands) is defined in 33 Code of Federal Register (CFR) 328.4(c)(1) as the ordinary high water mark (OHWM).



Map Date: 4/15/2019

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Figure 1. Study Area Location and Vicinity

2018-180 Simmerhorn Ranch

The OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

2.2 Clean Water Act

The USACE regulates discharge of dredged or fill material into Waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into Waters of the U.S., including, but not limited to the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. In California, this certification or waiver is typically issued by the Regional Water Quality Control Board. However, in the case of tribal lands that are held in trust, this certification or waiver is issued by the U.S. Environmental Protection Agency (USEPA).

2.3 Jurisdictional Assessment

The Clean Water Rule (CWR) was published in June 2015, but implementation of the rule was stayed until September 2018. It is currently (2018) in effect for 22 states, including California, the District of Columbia, and the U.S. territories. The CWR establishes categories of waters that are jurisdictional, waters that are excluded, and waters that require a case-specific significant nexus evaluation to determine if they are Waters of the U.S. By rule, the CWR defines Waters of the U.S. to include Traditional Navigable Waters (TNW), interstate waters, and territorial seas, impoundments of jurisdictional waters, and tributaries and adjacent (i.e. bordering, contiguous, or neighboring) waters to TNW, interstate waters, or territorial seas (USACE and USEPA 2015).

According to the CWR, neighboring is defined as waters located: within 100 feet of the OHWM of a jurisdictional feature, within the 100-year floodplain of a jurisdictional feature and within 1,500 feet of the feature, or within 1,500 feet of the high tide line of TNW, interstate water, or territorial sea. Western vernal pools in California and several other location-specific aquatic feature types are evaluated on a case-by-

case basis to determine whether they have a significant nexus to TNW, interstate waters, or territorial seas (USACE and USEPA 2015).

Feature types that are categorically excluded from CWA jurisdiction include waste treatment systems, prior converted cropland, ditches with intermittent or ephemeral flow that are not relocated tributaries or excavated in a tributary, ditches that do not flow, directly or indirectly, into a jurisdictional water, artificially irrigated areas that would revert to dry land in the absence of irrigation, artificial, constructed lakes or ponds created by excavating and/or diking dry land, small ornamental waters, artificial reflecting or swimming pools created by excavating and/or diking dry land, water-filled depressions created in dry land incidental to mining or construction activities, erosional features such as gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways, and puddles (USACE and USEPA 2015).

3.0 METHODS

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2008). The boundaries of aquatic resources were delineated through standard field methods (e.g., paired sample set analyses). Field data were recorded on Wetland Determination Data Forms - Arid West Region (Attachment B). Color aerial photographs (Google Earth 2018) were used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (NRCS 2018a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) was used for plant nomenclature and identification.

The field survey was conducted on November 7, 2018 by ECORP biologists Clay DeLong and Emily Mecke. An additional site visit was conducted by Mr. DeLong on April 4, 2019. Mr. DeLong and Ms. Mecke walked the entire ±126.71-acre Study Area to determine the location and extent of aquatic resources. A portion of the Study Area along Simmerhorn Road was not accessible by foot due access limitations on private property. These areas were visually assessed from the road right-of-way. Paired locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to document marginal areas or aquatic resource signatures observed on aerial photographs that were determined not to be aquatic resources because they lacked hydrophytic vegetation, hydric soils, and/or wetland hydrology. Aquatic resources within the Study Area were recorded in the field using a post-processing capable global positioning system unit with sub-meter accuracy (EOS Arrow 100).

3.1 Routine Determinations for Wetlands

To be determined a wetland, the following three criteria must be met:

- A majority of dominant vegetation species are wetland-associated species;

- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and
- Hydric soils are present.

3.1.1 Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "a prevalence of vegetation typically adapted for life in saturated soil conditions." Prevalent vegetation is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator and was applied at each sampling point location. The "50/20 rule" was used to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprise 20 percent or more of the total cover in the stratum (HQUSACE 1992, USACE 2008).

Dominant plant species observed at each sampling point were then classified according to their indicator status (probability of occurrence in wetlands, Table 1), *North American Digital Flora: National Wetland Plant List* (Lichvar et al. 2016). If the majority (more than 50 percent) of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC), the site was considered to be dominated by hydrophytic vegetation.

Table 1. Classification of Wetland-Associated Plant Species[1]

Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands
Upland	UPL	Almost never occur in wetlands
Plants That Are Not Listed (assumed upland species)	N/L	Does not occur in wetlands in any region.

[1]Source: Lichvar et al. 2016

In instances where indicators of hydric soil and wetland hydrology were present, but the plant community failed the dominance test, the vegetation was re-evaluated using the Prevalence Index. The Prevalence Index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and weighting is by abundance (percent cover). If the plant community failed the Prevalence Index, the

presence/absence of plant morphological adaptations to prolonged inundation or saturation in the root zone was evaluated.

3.1.2 Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (NRCS 2003). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon, hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

At each sampling point a soil pit was excavated to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each sampling point. The soil was then examined for hydric soil indicators. Soil colors were determined while the soil was moist using the *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990). Hydric soils are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. These processes and the features in the soil that develop can be identified by looking at the color and texture of the soils.

3.1.3 Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to: visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude wetland hydrology is present. Secondary indicators include, but are not limited to: drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard. The occurrence of at least one primary indicator or two secondary indicators is required to confirm the presence of wetland hydrology.

4.0 RESULTS

4.1 Existing Site Conditions

The Study Area is located within a former dairy farm at approximately 50 - 60 feet above mean sea level in the Sacramento Valley region of California (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Study Area is 38.9˚F and the average summer high temperature is 90.1˚F. Average annual precipitation is approximately 19 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2018a).

The Study Area is primarily composed of mowed agricultural fields. Defunct dairy infrastructure and a rural residence occur in the central eastern portion of the Study Area, and a small rural residence occurs in the northeastern portion of the Study Area.

Vegetation communities within the Study Area include agricultural field and ruderal annual grassland. The majority of the Study Area is composed of agricultural fields planted with Italian rye grass (*Festuca perennis*) that was mowed at the time of the survey. Other plant species scattered throughout the agricultural fields included prickly lettuce (*Lactuca serriola*), prostrate knotweed (*Polygonum aviculare* ssp. *depressum*), and field bindweed (*Convolvulus arvensis*). While vegetation within the agricultural fields was marginally hydrophytic due to the presence of planted Italian ryegrass, no other wetland parameters were observed (see Sampling Points 03N and 05N).

Ruderal annual grassland occurs in the central portion of the Study Area surrounding the old dairy structures and along Simmerhorn Road, and it is dominated primarily by a mix of nonnative annual grasses and forbs such as wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), milk thistle (*Silybum marianum*), prickly lettuce, and goose grass (*Galium aparine*). Rural residences present adjacent to the dairy structures and in the northeastern corner of the Study Area are surrounded by gravel roads and ornamental trees. A stand of trees is present along the southeastern boundary with scattered patches of Himalayan blackberry (*Rubus armeniacus*). Trees present in this area include Valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), Callery pear (*Pyrus calleryana*), and Northern California black walnut (*Juglans hindsii*).

During the 2017-2018 water year prior to the November field survey (October 1, 2017 to November 7, 2018), approximately 13.8 inches of precipitation were recorded at the Lodi 1 NNW reporting station (NOAA 2018b), located approximately nine miles from the Study Area. Precipitation recorded for the 2017-2018 water year was approximately 73 percent of the historic average (NOAA 2018a). The most recent significant precipitation event prior to the surveys occurred April 6-8, 2018 with a total of 1.9 inches of rainfall accumulating over three days (NOAA 2018b).

During the 2018-2019 water year prior to the April field survey (October 1, 2018 to April 4, 2019), approximately 13.42 inches of precipitation were recorded at the Lodi NNW reporting station (NOAA 2018b). Precipitation recorded for the 2018-2019 water year to-date is approximately 71 percent of the historic average (NOAA 2018a). The most recent significant precipitation event prior to the surveys occurred January 15-19, 2019 with a total of 2.52 inches of rainfall accumulating over five days (NOAA 2018b).

This majority of the aquatic resources delineation was conducted in the fall, outside the blooming season for most plant species. However, most plants were identifiable to species based upon vegetative or fruit morphology. Hydrologic conditions onsite were slightly abnormal for November (i.e., dry) and the relatively dry water year preceding this delineation reduced the reliability of field observations of wetland hydrology (or the lack thereof). To correct for challenges in identifying wetland hydrology in the field, aerial photographs from previous years were used to validate field observations (Google Earth 2018). The aquatic resources delineation along Simmerhorn Road was conducted in early spring, during the

blooming season for most plants, and following a wet winter. Hydrologic conditions onsite were normal for April.

4.1.1 California Aquatic Resource Inventory

The California Aquatic Resource Inventory (CARI, San Francisco Estuary Institute [SFEI] 2017) is a statewide map of surface waters and related habitats combining multiple national and regional datasets, including the National Wetlands Inventory, and the National Hydrography Dataset. CARI includes aquatic resource features mapped using a variety of remote sensing and modeling techniques. As such, these aquatic features may or may not exist as represented. In addition, CARI data varies in detail, accuracy, and age, and is meant to be used as a tool to assist with aquatic resources delineations and regional planning. It is not intended to be used as the only source of aquatic resource information for detailed site planning or regulatory permitting (SFEI 2017).

According to CARI, there are several aquatic features mapped within the Study Area, including depressional, depressional natural, depressional seasonal, riverine, and fluvial natural features (Figure 2. *California Aquatic Resource Inventory Features*). Mapped depressional natural features roughly correspond to defunct dairy effluent ponds in the central-eastern portion of the Study Area. The mapped depressional and depressional seasonal features roughly correspond to a seasonal wetland in the northwestern portion of the Study Area. The mapped fluvial natural and riverine features roughly correspond to a drainage ditch in the northern portion of the Study Area.

4.1.2 Soils

According to the Web Soil Survey (NRCS 2018a), three soil units, or types, have been mapped within the Study Area (Figure 3. *Natural Resources Conservation Service Soil Types*). These include:

- 213 – San Joaquin silt loam, leveled, 0 to 1 percent slopes
- 214 – San Joaquin silt loam, 0 to 3 percent slopes
- 219- San Joaquin-Urban land complex, 0 to 2 percent slopes.

San Joaquin silt loam, levelled, 0 to 1 percent slopes and San Joaquin silt loam, 0 to 3 percent slopes contain components which are considered hydric when occurring in depressions. San Joaquin-Urban complex, 0 to 2 percent slopes contains components which are considered hydric when occurring in terraces (NRCS 2018b).

4.2 Aquatic Resources

A total of 1.641 acres of aquatic resources have been mapped within the Study Area (Table 2). The wetland determination data forms are included as Attachment B, and a list of plant species observed within the Study Area is included as Attachment C. A discussion of the aquatic resources is presented below, and the aquatic resources delineation map is presented in Figure 4. *Aquatic Resources Delineation*.

Representative site photographs are included as Attachment D. The USACE Operations and Maintenance Business Information Link Regulatory Module (ORM) aquatic resources table is included in Attachment E.

Figure 2.
California Aquatic Resource Inventory Features

Map Features

Study Area - 126.71 acres

California Aquatic Resource Inventory Features

Stream Features

Fluvial Natural

Wetland Features

Depressional

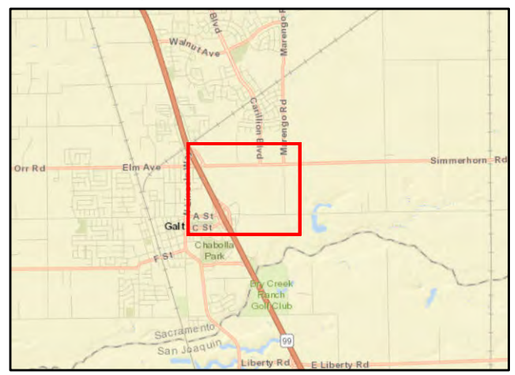
Depressional Natural

Depressional Seasonal

Individual Vernal Pool

Riverine

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



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Simmerhorn Ranch 2018-180

Scale in Feet
0 600

Photo Source: USGS 2009 (SACOG)

Map Date: 4/15/2019

Location: N:\2018\2018-180 The Dairy-Galt\MAPS\Jurisdictional_Delineation\CARI\v1\SR_CARI_20181128.mxd (AMM)-amyers 4/15/2019

Figure 3.
Natural Resources Conservation Service Soil Types

Map Features

Study Area - 126.71 acres

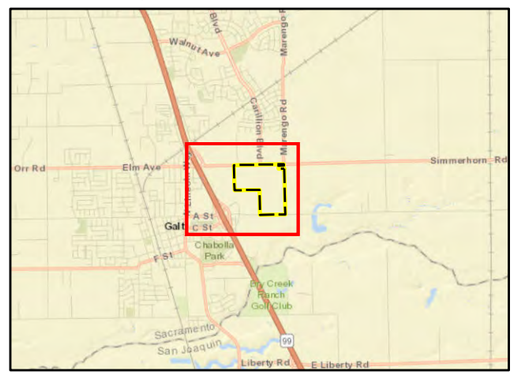
Series Number - Series Description

213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes

214 - San Joaquin silt loam, 0 to 3 percent slopes

219 - San Joaquin-Urban land complex, 0 to 2 percent slopes

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



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Location: N:\2018\2018-180 The Dairy-Galt\MAPS\Soils_and_Geology\Soils\SR_Soils_20181128.mxd (AMM)-amyers 4/15/2019

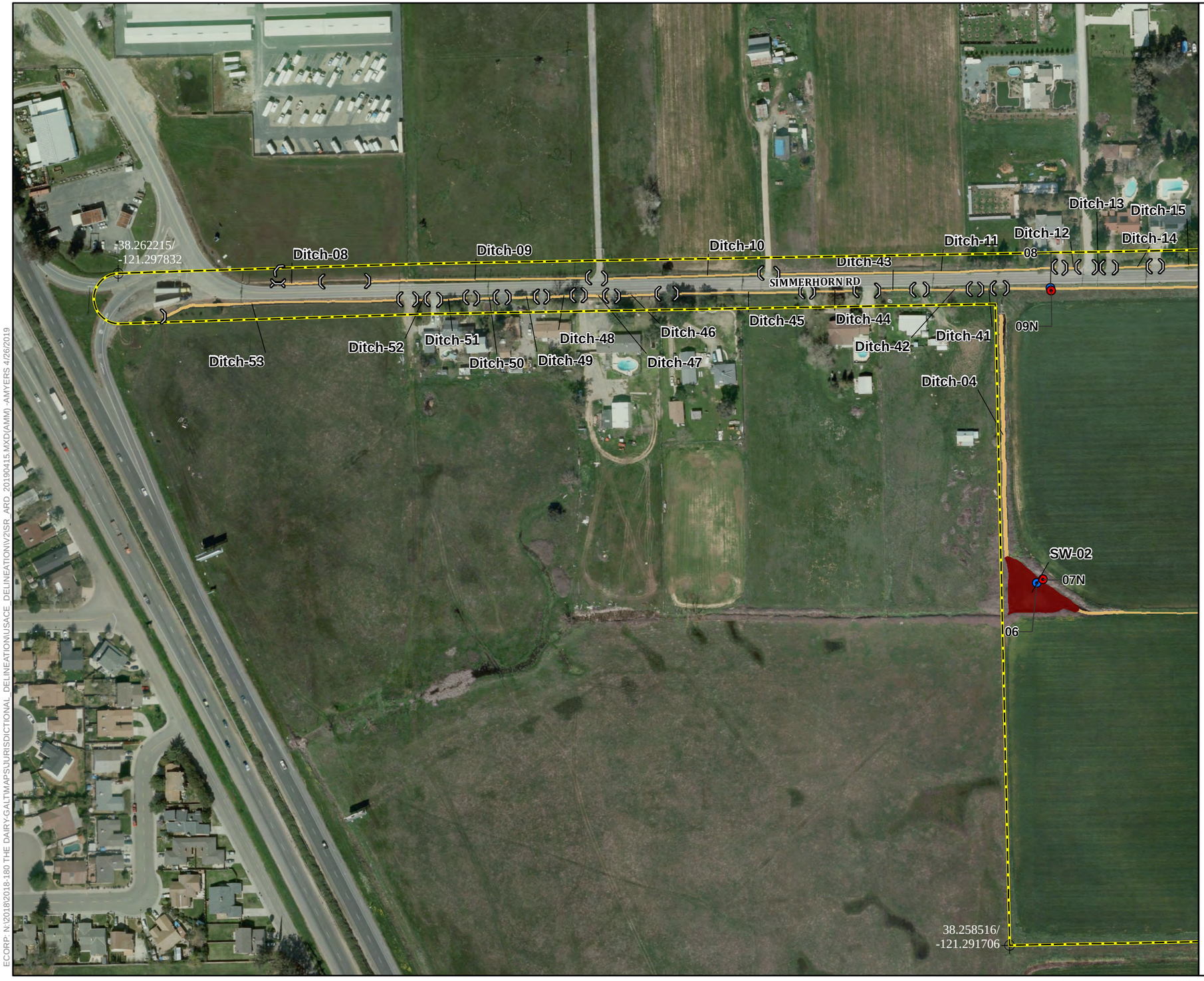
2018-180 Simmerhorn Ranch

Scale in Feet
0 600

Photo Source: USGS 2009 (SACOG)

Map Date: 4/15/2019

Figure 4.
Aquatic Resources Delineation
Sheet 1 of 3



Map Features

- Study Area - 126.71 acres
- Reference Coordinates (NAD83)
- Culvert

Three Criteria Sample Points

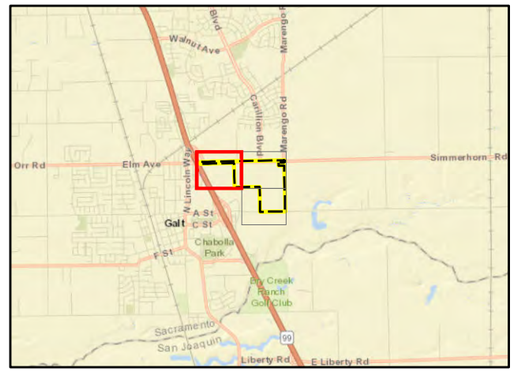
- Upland Point
- Waters Point

Waters of the U.S. (1.641 acres)[1]

- Ditch - 0.894 total acre
- Seasonal Wetland - 0.747 total acre

[1] *The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.*
** The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.*

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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2018-180 Simmerhorn Ranch

Scale in Feet
0 200

Photo Source: USGS 2009 (SACOG)
Boundary Source: Wood Rodgers
Delineator(s): Clay DeLong and Emily Mecke
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Map Date: 4/26/2019

ECORP: N:\2018\2018-180 THE DAIRY-GALT\MAPS\JURISDICTIONAL_DELINEATION\USACE_DELINEATION\2ISR_ARD_20190415.MXD(AMM) -AMYERS 4/26/2019

Figure 4.
Aquatic Resources Delineation
Sheet 2 of 3

Map Features

- Study Area - 126.71 acres
- Reference Coordinates (NAD83)
- Culvert

Three Criteria Sample Points

- Upland Point
- Waters Point

Waters of the U.S. (1.641 acres)[1]

- Ditch - 0.894 total acre
- Seasonal Wetland - 0.747 total acre

[1] *The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.*
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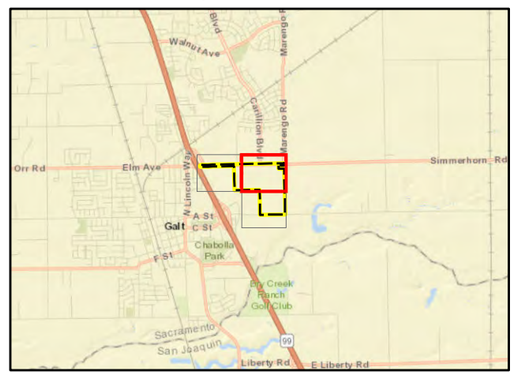

ECORP Consulting, Inc.
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2018-180 Simmerhorn Ranch

Scale in Feet
0 200

Photo Source: USGS 2009 (SACOG)
Boundary Source: Wood Rodgers
Delineator(s): Clay DeLong and Emily Mecke
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Map Date: 4/26/2019

ECORP: N:\2018\2018-180 THE DAIRY-GALT\MAPS\JURISDICTIONAL_DELINEATION\USACE_DELINEATIONV2\SR_ARD_20190415.MXD(AMM) -AMYERS 4/26/2019

Figure 4.
Aquatic Resources Delineation
Sheet 3 of 3

Map Features

- Study Area - 126.71 acres
- Reference Coordinates (NAD83)
- Culvert

Three Criteria Sample Points

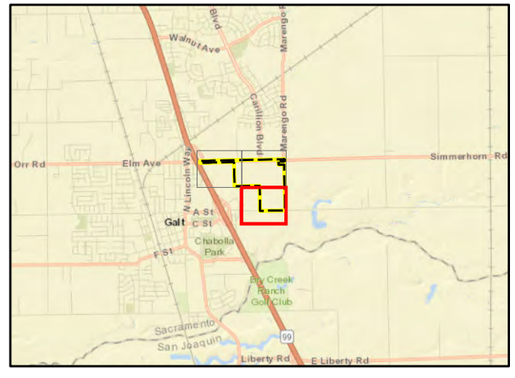
- Upland Point
- Waters Point

Waters of the U.S. (1.641 acres)[1]

- Ditch - 0.894 total acre
- Seasonal Wetland - 0.747 total acre

[1] *The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.*
** The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.*

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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2018-180 Simmerhorn Ranch

Scale in Feet
0 200

Photo Source: USGS 2009 (SACOG)
Boundary Source: Wood Rodgers
Delineator(s): Clay DeLong and Emily Mecke
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Map Date: 4/26/2019

ECORP: N:\2018\2018-180 THE DAIRY-GALT\MAPS\URISDICTIONAL_DELINEATION\USACE_DELINEATIONV2\SR_ARD_20190415.MXD(AMM) -AMYERS 4/26/2019

Table 2. Aquatic Resources	
Type	**Acreage[1]**
Wetlands	
Seasonal wetland	0.747
Other Waters	
Drainage ditch	0.894
Total	1.641

[1]Acreages represent a calculated estimation and are subject to modification following the USACE verification process.

4.2.1 Wetlands

Seasonal Wetland

Seasonal wetlands are ephemerally wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short and they are commonly dominated by nonnative annual and sometimes perennial hydrophytic species. There are four seasonal wetlands within the Study Area. Two of the seasonal wetlands (SW-01 and SW-04) are remnant defunct dairy ponds used for storage of effluent runoff that were excavated when the site was an active dairy.

Sampling Point 1 was collected in one of the defunct dairy pond seasonal wetlands (SW-01). Plant species observed within the seasonal wetland include curly dock (*Rumex crispus*), goose grass, rabbitsfoot grass (*Polypogon monspeliensis*), and prickly lettuce. A soil pit was not excavated due to health concerns as the feature was historically used for manure disposal. Hydric soils were assumed due to presence of hydrophytic vegetation and wetland hydrology. Wetland hydrology indicators observed include drift deposits (B3) and biotic crust (B12).

Sampling Points 6 and 12 were collected in seasonal wetlands in the northern portion of the Study Area (SW-02 and SW-03). Dominant plant species observed within these seasonal wetlands include rabbitsfoot grass, barnyard grass (*Echinochloa crus-galli*), and Italian ryegrass.

The soil profile at Sampling Point 6 was 10YR 4/2 with 20 percent redox concentrations colored 5YR 4/6. Soils at Sampling Point 6 were determined to be hydric based on the presence of hydric soil indicator depleted matrix (F3). The soil profile at Sampling Point 12 was 7.5YR 3/2 with 5 percent redox concentrations colored 7.5YR 4/6. Soils at Sampling Point 12 were determined to be hydric based on the presence of hydric soil indicator redox dark surface (F6).

Wetland hydrology indicators at Sampling Points 6 and 12 include inundation visible on aerial imagery (B7) and biotic crust (B12).

4.2.2 Other Waters

Drainage Ditch

Drainage ditches are linear features constructed to convey water. Drainage ditches occur along roads on the northern boundary (Simmerhorn Road) and a portion of the eastern boundary. A drainage ditch also occurs along a portion of the western boundary and another ditch runs east - west through the northern portion of the Study Area. Water was not present in any of the drainage ditches at the time of the survey. Sampling Points 8 and 10 occur within drainage ditches.

Sampling Point 8 was collected within the roadside drainage ditch (Ditch-06) that occurs along the northern boundary of the Study Area. Plant species observed within the drainage ditch include dallis grass (*Paspalum dilatatum*), tall flatsedge (*Cyperus eragrostis*), barnyard grass, and curly dock. The soil matrix color at Sampling Point 8 was 10YR 4/2 with 15 percent redox concentrations colored 5YR 4/6. Soils were determined to be hydric based on the presence of hydric soil indicator depleted matrix (F3). Wetland hydrology indicators observed at Sampling Point 8 include water marks (B1) and biotic crust (B12).

Sampling Point 10 was collected within the drainage ditch (Ditch-05) that runs east to west through the northern portion of the Study Area. Plant species observed within the drainage ditch include Italian ryegrass and curly dock. The soil matrix color at Sampling Point 10 was 7.5YR 3/2 with 10 percent redox concentrations colored 7.5YR 4/6. Soils were determined to be hydric based on the presence of hydric soil indicator redox dark surface (F6). Wetland hydrology indicators observed at Sampling Point 10 include water marks (B1) and biotic crust (B12).

5.0 JURISDICTIONAL ASSESSMENT

According to Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determines that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional" (USACE 2016b). A significant nexus evaluation is not necessary to obtain a PJD. The following information on connectivity of wetlands and other waters in the Study Area to TNW is provided should an Approved Jurisdictional Determination (AJD) be necessary.

SW-02 and SW-03 within the Study Area flow directly or indirectly (via sheet flow) into the drainage ditches onsite. The drainage ditches likely flow via roadside ditches or a storm drainage system into Dry Creek. Dry Creek is a relatively permanent tributary to the Mokelumne River. The USACE Sacramento District has identified the Mokelumne River as TNW. Therefore, SW-02, SW-03 and the drainage ditches within the Study Area likely have a significant nexus (affecting the chemical, physical, or biological integrity) with downstream TNW and are likely subject to regulation under Section 404 of the CWA. SW-01 and SW-04 were excavated in uplands to function as dairy effluent ponds when the Study Area was an active dairy. The dairy ponds appear to have previously overflowed into a now defunct excavated ditch (see Sampling Point 04N). The ponds are no longer in use and do not appear to overflow or connect to any of the drainage ditches onsite. Therefore, SW-01 and SW-04 may not have a significant nexus with

downstream TNW and may not be subject to regulation under Section 404 of the CWA. An AJD would be required to determine if any aquatic resources within the Study Area are non-jurisdictional.

6.0 CONCLUSION

A total of 1.641 acres of aquatic resources have been mapped within the Study Area. This acreage represents a calculated estimation of the extent of aquatic resources within the Study Area, and is subject to modification following USACE review and/or the verification process. The placement of dredged or fill material into jurisdictional features would require a permit pursuant to Section 404 of the CWA and certification or waiver in compliance with Section 401 of the CWA.

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LIST OF ATTACHMENTS

ATTACHMENT A

Driving Directions to Study Area

Google Maps 1325 J Street, Sacramento, CA to 13600 Marengo Rd, Galt, CA 95632 Drive 26.5 miles, 30 min

1325 J St

Sacramento, CA 95814

Get on I-80BL E from 15th St

6 min (1.6 mi)

1. Head east on J St toward 14th St

0.1 mi

2. Use the right 2 lanes to turn right onto 15th St

1.1 mi

3. Use the left 2 lanes to turn left onto X St

407 ft

4. Use the middle 2 lanes to turn slightly left onto the I-80 E ramp

0.3 mi

Follow CA-99 S to N Lincoln Way in Galt. Take exit 275A from CA-99 S

22 min (23.7 mi)

5. Merge onto I-80BL E

0.3 mi

6. Use the right lane to take exit 6B for Interstate 80 Business East toward Reno/CA-99 S/Fresno

0.3 mi

7. Keep right at the fork, follow signs for CA-99 S and merge onto CA-99 S

22.9 mi

8. Take exit 275A for Elm Ave toward Simmerhorn Rd

0.2 mi

Take Simmerhorn Rd to Marengo Rd

3 min (1.2 mi)

9. Turn right onto N Lincoln Way

0.1 mi

10. Turn right onto Simmerhorn Rd

1.1 mi

11. Turn right onto Marengo Rd

23 ft

13600 Marengo Rd

Galt, CA 95632

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

ATTACHMENT B

Wetland Determination Data Forms - Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 1

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C Lat: 38.2574345 Long: -121.2837239 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Seasonal wetland (historic dairy pond) paired with sampling point 2N

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Rumex crispus	30	Y	FAC
2. Galium aparine	15	Y	FACU
3. Polypogon monspeliensis	5	N	FACW
4. Lactuca serriola	5	N	FACU
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 5	x 2 = 10
FAC species 30	x 3 = 60
FACU species 20	x 4 = 80
UPL species 0	x 5 = 0
Column Totals: 55 (A)	150 (B)

Prevalence Index = B/A = 2.72

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Soil pit not excavated due to health concerns (feature is an old dairy pond used for manure disposal). Hydric soils are assumed due to presence of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 2N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 45

Subregion (LRR): C Lat: 38.25740697 Long: -121.2837366 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland adjacent to seasonal wetland paired with sampling point 1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Rumex crispus	5	N	FAC
2. Galium aparine	5	N	FACU
3. Bromus diandrus	40	Y	N/L
4. Hordeum murinum	20	Y	FACU
5. Silybum marianum	2	N	N/L
6.			
7.			
8.			
	72 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 28 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 2N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Soil pit not excavated due to health concerns (feature is an old dairy pond used for manure disposal). Hydric soils are assumed absent due to lack of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 3N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Agricultural field Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): C Lat: 38.25715749 Long: -121.2834121 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Sample point taken in a slight depression (low point) within agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Festuca perennis	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 3N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/4	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 4N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): drainage ditch Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C Lat: 38.25531076 Long: -121.2834121 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Sample point taken in drainage ditch that lacks wetland parameters and has no ordinary high water mark (OHWM). Not an aquatic resource.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' x 3')			
1. Silybum marianum	20	Y	N/L
2. Bromus diandrus	20	Y	N/L
3. Raphanus sativus	10	Y	N/L
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 4N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/4	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 5N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): agricultural field Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 38.2587209 Long: -1212870227 Datum:

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

Sample point taken in area where a potential signature was observed on aerial photograph. Area is actually a raised area within an agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Festuca perennis	40	Y	FAC
2. Medicago polymorpha	10	N	FACU
3. Convolvulus arvensis	1	N	N/L
4.			
5.			
6.			
7.			
8.			
	51 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 49 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 5N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	N/A				Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 6

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): non Slope (%): 3

Subregion (LRR): C Lat: 38.26048822 Long: -121.2914964 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: Depressional

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Seasonal wetland fed by drainage ditch and drained by another drainage ditch; paired with sampling point 7N

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Polypogon monspeliensis	100	Y	FACW
2. Rumex crispus	5	N	FAC
3. Carduus pycnocephalus	1	N	N/L
4.			
5.			
6.			
7.			
8.			
	106 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	80	5YR 4/6	20	C	M,PL	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 7N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 40

Subregion (LRR): C Lat: 38.26050864 Long: -121.291455 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland adjacent to seasonal wetland; paired with sampling point 6.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Raphanus sativus	25	Y	N/L
2. Carduus pycnocephalus	30	Y	N/L
3. Phalaris paradoxa	15	N	FAC
4. Bromus diandrus	15	N	N/L
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 7N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	N/A				Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 8

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Drainage ditch Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: 38.26209384 Long: -121.2913869 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Roadside drianage ditch paired with sampling point 9N

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 4' x 4')			
1. Paspalum dilatatum	30	Y	FAC
2. Cyperus eragrostis	10	N	FACW
3. Echinochloa crus-galli	40	Y	FACW
4. Rumex crispus	10	N	FAC
5.			
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	85	5YR 4/6	15	C	M,PL	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 9N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): upland Local relief (concave, convex, none): convex Slope (%): 50

Subregion (LRR): C Lat: 38.2620807 Long: -121.2913822 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland adjacent to drainage ditch; paired with sampling point 8.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Avenua fatua	30	Y	N/L
2. Bromus hordeacus	20	Y	FACU
3. Bromus diandrus	15	Y	N/L
4.			
5.			
6.			
7.			
8.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 9N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	N/A				Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 10

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Drainage ditch Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C Lat: 38.26039347 Long: -121.2831626 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Drainage ditch paired with sampling point 11N

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' x 3')			
1. Festuca perennis	95	Y	FAC
2. Rumex crispus	5	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	90	7.5YR 4/6	10	C	M,PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 11N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): agricultural field Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C Lat: 38.26037345 Long: -121.2831613 Datum: NAd 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland adjacent to drainage ditch; paired with sampling point 10.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' x 3')			
1. Festuca perennis	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 11N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 12

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C Lat: 38.26049796 Long: -121.2827796 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Seasonal wetland paired with sampling point 13N

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 4' x 4')			
1. Echinochloa crus-galli	20	Y	FACW
2. Festuca perennis	20	Y	FAC
3. Polygonum aviculare	5	N	FAC
4. Cynodon dactylon	10	N	FACU
5.			
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	95	7.5YR 4/6	5	C	M,PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Refusal

Depth (inches): 6

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Simmerhorn Ranch City/County: Galt Sampling Date: 11/7/18

Applicant/Owner: Elliott Homes, Inc. State: CA Sampling Point: 13N

Investigator(s): C. DeLong; E. Mecke Section, Township, Range: S.26 T.05N R.06E

Landform (hillslope, terrace, etc.): agricultural field Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C Lat: 38.26050603 Long: -121.2827422 Datum: NAD 83

Soil Map Unit Name: 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland adjacent to drainage ditch; paired with sampling point 10

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Festuca perennis	90	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 13N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/4	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Refusal

Depth (inches): 6

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT C

Plant Species Observed Onsite

Simmerhorn Ranch Project

Plant Species Observed Onsite (November 7, 2018)

SCIENTIFIC NAME	COMMON NAME	Indicator
ADOXACEAE	**MUSKROOT FAMILY**	
Sambucus nigra ssp. *caerulea*	Blue elderberry	FACU
ANACARDIACEAE	**SUMAC FAMILY**	
*Schinus terebinthifolius**	Brazilian pepper tree	FAC
ASTERACEAE	**SUNFLOWER FAMILY**	
*Carduus pycnocephalus**	Italian thistle	N/L
*Centaurea solstitialis**	Yellow star-thistle	N/L
*Cichorium intybus**	Chicory	FACU
*Lactuca serriola**	Prickly lettuce	FACU
*Silybum marianum**	Milk thistle	N/L
BRASSICACEAE	**MUSTARD FAMILY**	
*Lepidium latifolium**	Broad-leaf pepper grass	FAC
*Raphanus sativus**	Purple wild radish	N/L
CACTACEAE	**CACTUS FAMILY**	
Opuntia sp.	Prickly pear cactus	N/L
CONVOLVULACEAE	**MORNING-GLORY FAMILY**	
*Convolvulus arvensis**	Field bindweed	N/L
CYPERACEAE	**SEDGE FAMILY**	
Cyperus eragrostis	Tall flatsedge	FACW
FABACEAE	**LEGUME FAMILY**	
*Medicago polymorpha**	Bur clover	FACU
FAGACEAE	**OAK FAMILY**	
Quercus lobata	Valley oak	FACU
Quercus wislizeni	Interior live oak	N/L
GERANIACEAE	**GERANIUM FAMILY**	
*Erodium moschatum**	Filaree	N/L
JUGLANDACEAE	**WALNUT FAMILY**	
Juglans hindsii	Northern California black walnut	FACU
MALVACEAE	**MALLOW FAMILY**	
*Malva parviflora**	Cheeseweed	N/L
MORACEAE	**MULBERRY FAMILY**	
*Morus alba**	White mulberry	FACU

Simmerhorn Ranch Project:

Plant Species Observed Onsite (November 7, 2018)

SCIENTIFIC NAME	COMMON NAME	Indicator
POACEAE	**GRASS FAMILY**	
*Avena fatua**	Wild oat	N/L
*Bromus diandrus**	Ripgut brome	N/L
*Bromus hordeaceus**	Soft brome	FACU
*Cynodon dactylon**	Bermuda grass	FACU
*Echinochloa crus-galli**	Barnyard grass	FACW
*Festuca perennis**	Italian Ryegrass	FAC
*Hordeum murinum ssp. glaucum**	Barley	FACU
*Paspalum dilatatum**	Dallis grass	FAC
*Phalaris paradoxa**	Paradox canary grass	FAC
*Polypogon monspeliensis**	Annual rabbit-foot grass	FACW
POLYGONACEAE	**BUCKWHEAT FAMILY**	
Persicaria amphibia	Water smartweed	OBL
Polygonum aviculare ssp. *depressum*	Prostrate knotweed	FAC
*Rumex crispus**	Curly dock	FAC
ROSACEAE	**ROSE FAMILY**	
*Prunus persica**	Peach (cultivated)	N/L
*Pyrus calleryana**	Callery pear	N/L
*Rubus armeniacus**	Himalayan blackberry	FAC
RUBIACEAE	**MADDER FAMILY**	
Galium aparine	Goose grass	FACU
SALICACEAE	**WILLOW FAMILY**	
Populus fremontii	Fremont's cottonwood	FAC
Salix exigua	Sandbar willow	FACW
Salix laevigata	Red willow	FACW
TYPHACEAE	**CATTAIL FAMILY**	
Typha latifolia	Broad-leaf cattail	OBL

ATTACHMENT D

Representative Site Photographs

Photo 1. Mowed agricultural field in southern portion of the Study Area. View south. Photo taken November 7, 2018.

Photo 2. Defunct dairy pond now functioning as a seasonal wetland in central portion of the Study Area. View west. Photo taken November 7, 2018.

Photo 3. Stand of trees along southern boundary. View east. Photo taken November, 7 2018.

Photo 4. Ruderal annual grassland surrounding old dairy structures. View northeast. Photo taken November 7, 2018.

Photo 5. Agricultural fields in northern portion of the Study Area. View northeast. Photo taken November 7, 2018.

Photo 6. Drainage ditch that bisects the northern agricultural fields. View west. Photo taken November 7, 2018.

Photo 7. Seasonal wetland connected to drainage ditch in northwestern portion of the Study Area. View northwest. Photo taken November 7, 2018.

Photo 8. Drainage ditch along western boundary. View south. Photo taken November 7, 2018.

Photo 9. Roadside drainage ditch along northern boundary of the Study Area. View east. Photo taken November 7, 2018.

Photo 10. Seasonal wetland in northeastern portion of the Study Area. View north. Photo taken November 7, 2018.

Photo 11. Ornamental trees adjacent to rural residence in central portion of the Study Area. View southwest. Photo taken November 7, 2018.

Photo 12. Rural annual grassland surrounding old dairy structures in central portion of the study Area. View west. Photo taken November 7, 2018.

ATTACHMENT E

USACE ORM Aquatic Resources Table

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway	Similarity_Situated	Sim_Situated_Aggregated_SPOE	Adjcent_Waters_Sbjct_33USC1344	OHWM_Chg_In_Plant_Community	OHWM_Bed_And_Banks	OHWM_Break_In_Slope	OHWM_Chg_In_Character_Of_Soil	OHWM_Chg_In_Veg_Density_Maturity	OHWM_Chg_In_Sediment_Texture	OHWM_Line_Impressed_On_Bank	OHWM_Deter_Of_Terrestrial_Veg	OHWM_Leaf_Litter_Disturbed	OHWM_Multiple_Flow_Events	OHWM_Scour	OHWM_Sediment_Deposition	OHWM_Sediment_Sorting	OHWM_Shelving	OHWM_Litter_and_Debris_Present	OHWM_Wrack_Line_Present	OHWM_Veg_Matted_Bent_Or_Absent	OHWM_Water_Staining	OHWM_Other	OHWM_Other_Text	Func_I_Sediment_Trapping	Func_II_Nutrient_Recycling	Func_III_Pollutant_Management	Func_IV_Prevnt_Attenu_Fld_Wtrs	Func_V_Runoff_Storage	Func_VI_Contribution_of_Flow	Func_VII_Export_Organic_Matter	Func_VIII_Export_Food_Resources	Func_IX_Prov_Life_Cycle_Depdnt
Ditch-01	CALIFORNIA	R4		Area	0.003	ACRE	DELINPJD	-121.2839703	38.26215696																																
Ditch-02	CALIFORNIA	R4		Area	0.025	ACRE	DELINPJD	-121.2831844	38.26215399																																
Ditch-03	CALIFORNIA	R4		Area	0.038	ACRE	DELINPJD	-121.2826439	38.26103928																																
Ditch-04	CALIFORNIA	R4		Area	0.077	ACRE	DELINPJD	-121.2917246	38.26129464																																
Ditch-05	CALIFORNIA	R4		Area	0.167	ACRE	DELINPJD	-121.2849008	38.26037937																																
Ditch-06	CALIFORNIA	R4		Area	0.164	ACRE	DELINPJD	-121.2881722	38.26212066																																
Ditch-07	CALIFORNIA	R4		Area	0.104	ACRE	DELINPJD	-121.2888524	38.2603361																																
Ditch-08	CALIFORNIA	R4		Area	0.007	ACRE	DELINPJD	-121.2965859	38.26215476																																
Ditch-09	CALIFORNIA	R4		Area	0.030	ACRE	DELINPJD	-121.2953456	38.26216784																																
Ditch-10	CALIFORNIA	R4		Area	0.022	ACRE	DELINPJD	-121.2939289	38.26217689																																
Ditch-11	CALIFORNIA	R4		Area	0.038	ACRE	DELINPJD	-121.2923184	38.26219103																																
Ditch-12	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2912423	38.26220614																																
Ditch-13	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2910532	38.26220604																																
Ditch-14	CALIFORNIA	R4		Area	0.005	ACRE	DELINPJD	-121.2908216	38.26220764																																
Ditch-15	CALIFORNIA	R4		Area	0.006	ACRE	DELINPJD	-121.2904765	38.26221423																																
Ditch-16	CALIFORNIA	R4		Area	0.005	ACRE	DELINPJD	-121.2901225	38.26221793																																
Ditch-17	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2898526	38.26221424																																
Ditch-18	CALIFORNIA	R4		Area	0.004	ACRE	DELINPJD	-121.2895721	38.26221794																																
Ditch-19	CALIFORNIA	R4		Area	0.003	ACRE	DELINPJD	-121.2892421	38.26223045																																
Ditch-20	CALIFORNIA	R4		Area	0.007	ACRE	DELINPJD	-121.2888861	38.26222684																																
Ditch-21	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2885977	38.26223215																																
Ditch-22	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2884134	38.2622314																																
Ditch-23	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2881552	38.26223426																																
Ditch-24	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2879396	38.26223355																																
Ditch-25	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2877758	38.26223599																																
Ditch-26	CALIFORNIA	R4		Area	0.004	ACRE	DELINPJD	-121.28742	38.26224015																																
Ditch-27	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2871218	38.26226356																																
Ditch-28	CALIFORNIA	R4		Area	0.009	ACRE	DELINPJD	-121.2866539	38.26226574																																
Ditch-29	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2863713	38.26225398																																
Ditch-30	CALIFORNIA	R4		Area	0.009	ACRE	DELINPJD	-121.2860137	38.26225472																																
Ditch-31	CALIFORNIA	R4		Area	0.005	ACRE	DELINPJD	-121.2855752	38.26225534																																
Ditch-32	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2853314	38.26226288																																
Ditch-33	CALIFORNIA	R4		Area	0.004	ACRE	DELINPJD	-121.2851247	38.26226475																																
Ditch-34	CALIFORNIA	R4		Area	0.012	ACRE	DELINPJD	-121.2846407	38.26226657																																
Ditch-35	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2841854	38.26227855																																
Ditch-36	CALIFORNIA	R4		Area	0.007	ACRE	DELINPJD	-121.2838933	38.26227971																																
Ditch-37	CALIFORNIA	R4		Area	0.001	ACRE	DELINPJD	-121.2836222	38.26227782																																
Ditch-38	CALIFORNIA	R4		Area	0.012	ACRE	DELINPJD	-121.2830437	38.26228614																																
Ditch-39	CALIFORNIA	R4		Area	0.003	ACRE	DELINPJD	-121.282505	38.26232934																																
Ditch-40	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.282489	38.26215849																																
Ditch-41	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2918272	38.26209369																																
Ditch-42	CALIFORNIA	R4		Area	0.006	ACRE	DELINPJD	-121.2920981	38.26209332																																
Ditch-43	CALIFORNIA	R4		Area	0.005	ACRE	DELINPJD	-121.2924603	38.26209284																																
Ditch-44	CALIFORNIA	R4		Area	0.006	ACRE	DELINPJD	-121.2928831	38.26208925																																
Ditch-45	CALIFORNIA	R4		Area	0.017	ACRE	DELINPJD	-121.2935419	38.26208496																																
Ditch-46	CALIFORNIA	R4		Area	0.006	ACRE	DELINPJD	-121.2942421	38.26207605																																
Ditch-47	CALIFORNIA	R4		Area	0.004	ACRE	DELINPJD	-121.2945362	38.26207368																																
Ditch-48	CALIFORNIA	R4		Area	0.005	ACRE	DELINPJD	-121.2947798	38.26207358																																
Ditch-49	CALIFORNIA	R4		Area	0.005	ACRE	DELINPJD	-121.29504	38.26206883																																
Ditch-50	CALIFORNIA	R4		Area	0.003	ACRE	DELINPJD	-121.2952882	38.26206562																																
Ditch-51	CALIFORNIA	R4		Area	0.004	ACRE	DELINPJD	-121.2955208	38.26206259																																
Ditch-52	CALIFORNIA	R4		Area	0.002	ACRE	DELINPJD	-121.2957378	38.26206007																																
Ditch-53	CALIFORNIA	R4		Area	0.039	ACRE	DELINPJD	-121.2968056	38.26204308																																
SW-01	CALIFORNIA	PEM		Area	0.182	ACRE	DELINPJD	-121.2841575	38.25746656																																
SW-02	CALIFORNIA	PEM		Area	0.197	ACRE	DELINPJD	-121.2915306	38.26043915																																
SW-03	CALIFORNIA	PEM		Area	0.078	ACRE	DELINPJD	-121.2827802	38.26061991																																
SW-04	CALIFORNIA	PEM		Area	0.290	ACRE	DELINPJD	-121.285913	38.25745987																																

ATTACHMENT F

Wetland Delineation Shape File (to be included with USACE submittal only - provided upon request)

Biological Resources Assessment

Simmerhorn Ranch Project

Sacramento County, California

Prepared For:

Elliott Homes, Inc.

May 2019

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, and monitoring and compliance reporting.

Citation: ECORP Consulting, Inc. 2019. Biological Resources Assessment for Simmerhorn Ranch Project. Prepared for Elliott Homes, Inc., Rocklin, California. May 2019.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AMMs	Avoidance and Minimization Measures
ARP	Aquatic Resources Program
BRA	Biological resources assessment
BCC	Birds of conservation concern
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CWA	Clean Water Act
CWR	Clean Water Rule
VELB	Valley elderberry longhorn beetle
ESA	Endangered Species Act
ITP	Incidental Take Permit
MBTA	Migratory Bird Treaty Act
MSL	Mean sea level
NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	±119.58-acre Study Area for the proposed Simmerhorn Ranch Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SSHCP	South Sacramento Habitat Conservation Plan
USACE	U.S. Army Corps of Engineers'
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

1.0 INTRODUCTION

On behalf of Elliott Homes, Inc., ECORP Consulting, Inc. conducted a biological resources assessment (BRA) for a ±126.71-acre Study Area for the proposed Simmerhorn Ranch Project and offsite sewer extension (Project) located in Sacramento County, California.

1.1 Study Area Location

The Study Area is located east of U.S. Highway 99, south of Simmerhorn Road and north of Boessow Road in Sacramento County, California (Figure 1. *Study Area Location and Vicinity*). The Study Area corresponds to a portion of Section 26, Township 5 North, Range 6 East (Mount Diablo Base and Meridian) of the "Galt, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1980). The approximate center of the Study Area is located at 38.260029° latitude and -121.284664° longitude within the Upper Cosumnes and Upper Mokelumne watersheds (Hydrologic Unit Code #18040013 and 18040012, respectively, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016).

1.2 Purpose of this Biological Resources Assessment

The purpose of this BRA was to collect information on the biological resources present or with the potential to occur in the Study Area, to provide an analysis of potential Project impacts on these resources, and to recommend mitigation measures. This BRA is intended to support preparation of an environmental document pursuant to the California Environmental Quality Act (CEQA), and to support an application for participation in the South Sacramento Habitat Conservation Plan (SSHCP).

This BRA includes information generated from the reconnaissance-level site assessment and does not include determinate field surveys for special-status plant and wildlife species. An aquatic resources delineation was performed according to U.S. Army Corps of Engineers' (USACE) standards and is provided under separate cover (ECORP 2019).

1.3 Project Description

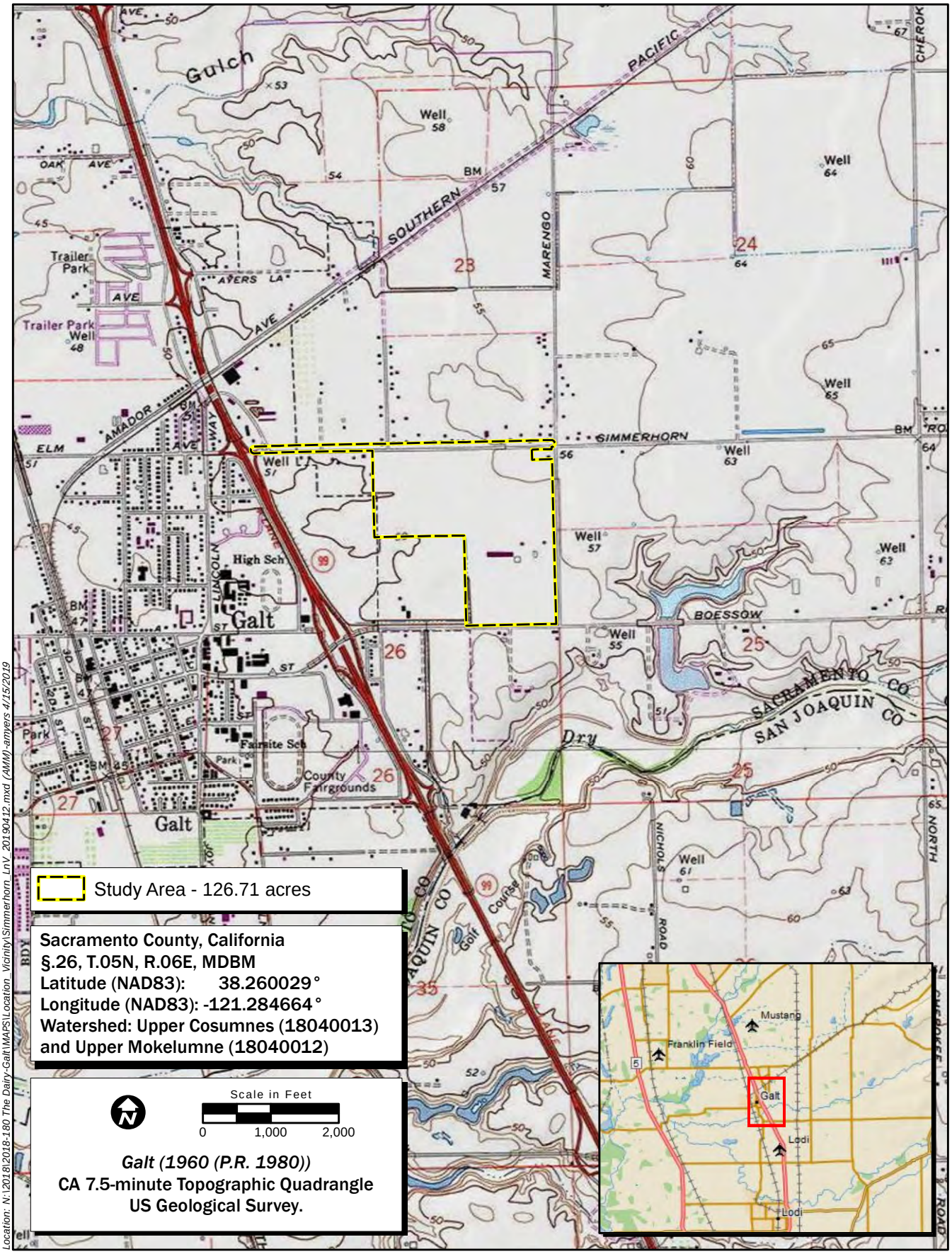
The Project includes construction of a residential development consisting of 498 single-family homes, a school, and several parks, roadway improvements, and an offsite sewer extension along Simmerhorn Road. See Attachment A for a detailed draft Project Description. Representative site photographs are provided as Attachment B.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).



Map Date: 4/15/2019

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Study Area Location and Vicinity

2018-180 Simmerhorn Ranch

Section 9 of ESA prohibits, without authorization, the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" [50 Code of Federal Regulations (CFR) 17.3]. For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant under federal jurisdiction and removing, cutting, digging up, damaging, or destroying any listed plant in any other area in knowing violation of state law [16 U.S. Code (USC) 1538]. Under Section 7 of ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals and funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, USFWS and NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species or adversely modify critical habitat. Section 10 of ESA provides for the issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed. Permitting under the SSHCP, which was developed pursuant to Section 10 of the ESA, allows for take authorization of certain Covered Species through a streamlined permitting process. The SSHCP is discussed further in Section 2.2.8.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of non-game birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the USACE. The Clean Water Rule (CWR) was published in April 2015, but implementation of the rule was stayed until July 2018. It is currently (2018) in effect for California and a few other states. The CWR defines which features are considered Waters of the U.S. (and thus subject to the CWA). The CWR defines Waters of the U.S. as features having a significant effect on the chemical, physical, or biological integrity of a Traditional Navigable Waters, interstate water, or territorial seas. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 CFR 328.3 7b]. The USEPA also has authority over wetlands, including the authority to veto permits issued by USACE under CWA Section 404(c).

Projects involving activities that have no more than minimal individual and cumulative adverse environmental effects may meet the conditions of one of the Nationwide Permits already issued by USACE (Federal Register 82:1860, January 6, 2017). If impacts on wetlands could be substantial, an individual permit is required. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB). The SSHCP includes an Aquatic Resources Program (ARP) to allow for streamlined permitting pursuant to CWA Sections 404 and 401. The SSHCP is discussed further in Section 2.2.8.

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the state as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful projects under permits issued by California Department of Fish and Wildlife (CDFW). Permitting under the SSHCP provides take authorization of certain Covered Species through a streamlined permitting process. The SSHCP is discussed further in Section 2.5.8.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and the California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the California ESA. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan (NCCP) within which such species are covered. The SSHCP is not an approved NCCP; however, it is consistent with California Fish and Game Code sections related to fully protected species, and SSHCP-Covered Species include some fully protected species. The SSHCP is discussed further in Section 2.2.8.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to "preserve, protect and enhance rare and endangered plants in this state."

The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare". The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA, but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

2.2.4 California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds.

Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.

Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests

Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic non-native species, or any part of these birds.

Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

2.2.5 Lake or Streambed Alteration Agreements

Section 1600-1616 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alternation Agreement. The SSHCP complies with Sections 1600-1616 of the California Fish and Game Code. The SSHCP is discussed further in Section 2.2.8.

2.2.6 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction

Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities. The SSHCP's ARP allows for streamlined permitting pursuant to the CWA and complies with the Porter-Cologne Water Quality Act. The SSHCP is discussed further in Section 2.2.8.

2.2.7 California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria include definitions similar to definitions used in ESA, the California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under ESA, the California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as species of special concern (SSC) by CDFW, and plants identified by the California Native Plant Society (CNPS) as rare, threatened, or endangered, may meet the CEQA definition of rare or endangered. The SSHCP is consistent with CEQA. The SSHCP is discussed further in Section 2.2.8.

Species of Special Concern

SSC are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected, the California ESA, or the California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status;
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status; and
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of BCC (USFWS 2008) for the United States. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. The CDFW maintains the *California Natural Community List* (CDFW 2018), which provides a list of vegetation alliances, associations, and special stands as defined in the *Manual of California Vegetation* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of 1, 2, or 3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

Wildlife Movement/Corridors and Nursery Sites

As part of the California Essential Habitat Connectivity Project, the CDFW and California Department of Transportation (Caltrans) maintain data on Essential Habitat Connectivity areas. This data is available in the California Natural Diversity Database (CNDDB). The goal of this project is to map large intact habitat or natural landscapes and potential linkages that could provide corridors for wildlife. For urban settings such as the Project, riparian vegetated stream corridors can also serve as wildlife movement corridors.

CDFW's Biogeographic Information and Observation System (BIOS) database, the CDFW Mule Deer Range, identifies winter range, migration corridors, critical range, or critical fawning areas for mule deer (CDFW 2019b).

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries, bat maternity roosts, mule deer critical fawning areas. This data is available through CDFW's BIOS database or as occurrence records in the CNDDB and is supplemented with the results of the field reconnaissance.

California Rare Plant Ranks

The CNPS maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2019), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The rank system was developed in collaboration with government,

academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, CNPS has defined Threat Ranks that are added to the California Native Plant Society CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2019).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.8 South Sacramento Habitat Conservation Plan

The SSHCP is a regional effort that will provide development and infrastructure projects with streamlined federal and state permitting processes while creating a preserve system to protect habitat, open space, and agricultural lands (County of Sacramento et al. 2018). The SSHCP allows project proponents within the Plan Area to simplify and expedite the state and federal ESA permitting process for 28 Covered Species and defines a number of Avoidance and Minimization Measures (AMMs) with which projects must comply. In addition to streamlining the ESA permitting processes, a parallel Aquatic Resources Program (ARP) has been developed to address permitting pursuant to the Clean Water Act Section 404 and 401 permitting process. The ARP is anticipated to involve USACE issuance of a Programmatic General Permit (PGP) and a streamlined Letter of Permission (LOP) procedure for projects exceeding the thresholds set by the PGP, and an abbreviated Standard Permit (SP) process for projects not meeting the eligibility requirements of the LOP process. See www.southsachcp.com for more information.

Table 1 provides a list of the SSHCP-Covered Species, adapted from *Table 1-2* of the SSHCP (County of Sacramento et al. 2018).

Table 1. SSHCP-Covered Species

Scientific Name **Common Name**	**Status**		
	Federal	**State**	**CRPR**
Invertebrates			
Lepidurus packardi Vernal pool tadpole shrimp	E	—	—
Branchinecta lynchi Vernal pool fairy shrimp	T	—	—
Branchinecta mesovallensis Mid-valley fairy shrimp	—	—	—
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	T	—	—

Table 1. SSHCP-Covered Species

Scientific Name Common Name	Status		
	Federal	State	CRPR
*Hydrochara ricksecker*i Ricksecker's water scavenger beetle	—	—	—
Amphibians			
Ambystoma californiense California tiger salamander, (Central Valley population)	T	T	—
Spea hammondii Western spadefoot	—	CSC	—
Reptiles			
Actinemys marmorata Western pond turtle	—	CSC	—
Thamnophis gigas Giant garter snake	T	T	—
Birds			
Accipiter cooperii Cooper's hawk	—	WL	—
Agelaius tricolor Tricolored blackbird	BCC	T	—
Athene cunicularia hypugaea Western burrowing owl	BCC	CSC	—
Buteo regalis Ferruginous hawk	BCC	—	—
Buteo swainsoni Swainson's hawk	BCC	T	—
Circus cyaneus Northern harrier	—	CSC	—
Elanus leucurus White-tailed kite	—	CFP	—
Grus canadensis tabida Greater sandhill crane	—	T; CFP	—
Lanius ludovicianus Loggerhead shrike	BCC	CSC	—
Mammals			
Lasiurus blossevillii *Western red bat*	—	CSC	—
Taxidea taxus *American badger*	—	CSC	—
Plants			
Downingia pusilla Dwarf downingia	—	—	2.2
Gratiola heterosepala Boggs Lake hedge-hyssop	—	E	1B.2
Juncus leiospermus var. *ahartii*	—	—	1B.2

Table 1. SSHCP-Covered Species

Scientific Name Common Name	Status		
	Federal	State	CRPR
Ahart's dwarf rush			
Legenere limosa Legenere	—	—	1B.1
Navarretia myersii Pincushion navarretia	—	—	1B.1
Orcuttia tenuis Slender Orcutt grass	T	E	1B.1
Orcuttia viscida Sacramento Orcutt grass	E	E	1B.1
Sagittaria sanfordii Sanford's arrowhead	—	—	1B.2

Status Definitions

Federal:
E = Listed as endangered under the federal ESA
T = Listed as threatened under the federal ESA
— = No federal ESA listing
BCC = Bird of Conservation Concern, USFWS 2008.

State:
E = Listed as endangered under state ESA
T = Listed as threatened under state ESA
CFP = Fully protected under the California Fish and Game Code
CSC = Species of special concern in California
WL = Watch List
— = No state status

California Native Plant Society California Rare Plant Rank (CRPR):
1B = Rare, threatened, or endangered in California and elsewhere
2 = Rare, threatened, or endangered in California but more common elsewhere

CRPR Threat Ranks
0.1 = Seriously threatened in California (high degree/immediacy of threat)
0.2 = Fairly threatened in California (moderate degree/immediacy of threat)
0.3 = Not very threatened in California (low degree/immediacy of threats or no current threats known)

2.2.9 City of Galt Heritage Tree Protection

Section 18.52.060: *Cutting and Removal of Heritage Oak Trees* of the Galt Municipal Code requires a tree permit for removal of any heritage oak trees. Heritage oak trees are defined as a tree with a single trunk with a diameter of six inches or greater measured four feet above the ground or a multi-trunk tree with a diameter of eight inches or greater measured four feet above the ground. Species covered include Valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia*), and oracle oak (*Quercus morehus*). For discretionary projects, the preservation or removal of trees as a condition of approval is enforced by the Community Development Director or his duly authorized representative as part of the conditions of approval (City of Galt 2018).

3.0 METHODS

For the purposes of this assessment, special-status species are defined as plants or animals that[1]:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the ESA;
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under § 15380 of the CEQA Guidelines;
- are identified as an SSC by the CDFW;
- are birds identified as BCC by the USFWS;
- are considered by the CNPS to be "rare, threatened, or endangered in California", "plants about which more information is needed", or "plants of limited distribution – a watch list" (i.e., species with a CRPR of 1B, 2, 3, or 4);
- are plants listed as rare under the NPPA (California Fish and Game Code, § 1900 et seq.);
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes); or
- are Covered Species as defined by the SSHCP.

3.1 Analysis of Species

The two different procedures used to assess the potential for SSHCP-Covered Species and species that are not Covered Species to occur within the Study Area are described below.

3.1.1 Analysis of SSHCP-Covered Species

SSHCP-Modeled Species Habitat data were used to determine which SSHCP-Covered Species have the potential to occur within the Study Area (SSHCP-Covered Species are listed in Table 1). Modeled Species Habitat data were obtained from the City of Galt and were not modified by ECORP to reflect actual potential based on site conditions.

3.1.2 Analysis of Other Special-Status Species

Literature Review

The following resources were queried to determine whether any special-status species other than SSHCP-Covered Species have potential to occur within the Study Area.

[1] Species which are tracked by the CNDDB but having no other special status are not considered to be special-status species.

- CDFW CNDDB record search for the "Galt, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CDFW 2019a);
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2019);
- CNPS' electronic *Inventory of Rare and Endangered Plants of California* was queried for the "Galt, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CNPS 2019).

Field Assessment

ECORP biologists Clay DeLong and Emily Mecke conducted an aquatic resource delineation of the site on November 7, 2018. An additional site visit at the offsite sewer extension was conducted by Mr. DeLong on April 4, 2019. During the surveys, the Study Area was walked on foot, and topographic maps and aerial imagery were referenced. A portion of the Study Area along Simmerhorn Road was not accessible by foot due to access limitations on private property. Biological communities occurring within the Study Area were characterized and the following biological resource information was collected:

- Potential aquatic features (also described separately in the Aquatic Resources Delineation [ECORP 2019]);
- Animal species directly observed;
- Habitat and vegetation communities (including Sensitive Natural Communities); and
- Representative photographs of the Study Area, provided as Attachment B.

3.2 Evaluation of Special-Status Species

Based on SSHCP-modeled species habitat, species occurrence information from the literature review, and field assessments, a complete list of special-status plant and animal species considered to have the potential to occur within the Study Area was generated (Attachment C). Species determined to have some potential either based on SSHCP-Modeled Species Habitat or site assessment are summarized in Section 4.5.

Each of the species that were considered as potentially occurring within the Study Area or vicinity was evaluated based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDB, SSHCP, or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Study Area based on site assessment, literature research, or SSHCP-Modeled Species Habitat data.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation. This designation is only used for species that are not SSHCP-Covered Species.

- **Absent** - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other documentation or SSHCP-Modeled Species Habitat data does not indicate that habitat for the species occurs within the site.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is located within an existing agricultural field that used to be a dairy farm at approximately 50 - 60 feet above mean sea level (MSL) in the Sacramento Valley region of California (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Study Area is 38.9˚F and the average summer high temperature is 90.1˚F. Average annual precipitation is approximately 19 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2018).

The Study Area is primarily composed of mowed agricultural fields. Defunct dairy infrastructure and a rural residence occur in the central eastern portion of the Study Area, and a small rural residence occurs in the northeastern portion of the Study Area.

4.2 Soils

According to the *Web Soil Survey* (NRCS 2018), three soil units, or types, have been mapped within the Study Area (Figure 2. *Natural Resources Conservation Service Soil Types*):

- 213 – San Joaquin silt loam, leveled, 0 to 1 percent slopes
- 214 – San Joaquin silt loam, 0 to 3 percent slopes
- 219 – San Joaquin-Urban land complex, 0 to 2 percent slopes.

San Joaquin soils are formed in alluvium derived from granite rock. No soil units derived from serpentinite or other ultramafic parent materials have been reported to occur within the Study Area or its immediate vicinity (NRCS 2018).

4.3 SSHCP Land Cover Types and Vegetation Communities

SSHCP Land Cover data within the Study Area were reviewed and shown in Figure 3. *Original South Sacramento Habitat Conservation Plan Land Cover*. After the site assessment, revision to the type and extent of the SSHCP Land Cover types were made to accurately reflect current field conditions and vegetation communities (Figure 4. *Revised South Sacramento Habitat Conservation Plan Land Cover*). The Land Cover types and acreages occurring within the Study Area are summarized in Table 2. The following descriptions are based on the revised land cover map.

Figure 2. Natural Resources Conservation Service Soil Types

Figure 2.
Natural Resource Conservation Service Soil Types

Map Features

Study Area - 126.71 acres

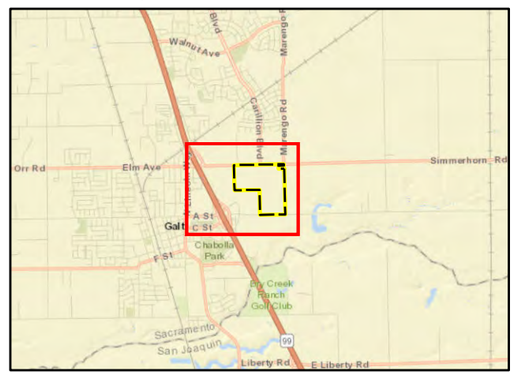
Series Number - Series Description

213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes

214 - San Joaquin silt loam, 0 to 3 percent slopes

219 - San Joaquin-Urban land complex, 0 to 2 percent slopes

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



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Location: N:\2018\2018-180 The Dairy-Galt\MAPS\Soils_and_Geology\Soils\SR_Soils_20181128.mxd (AMM)-amyers 4/15/2019

2018-180 Simmerhorn Ranch

Scale in Feet
0 600

Photo Source: USGS 2009 (SACOG)

Map Date: 4/15/2019

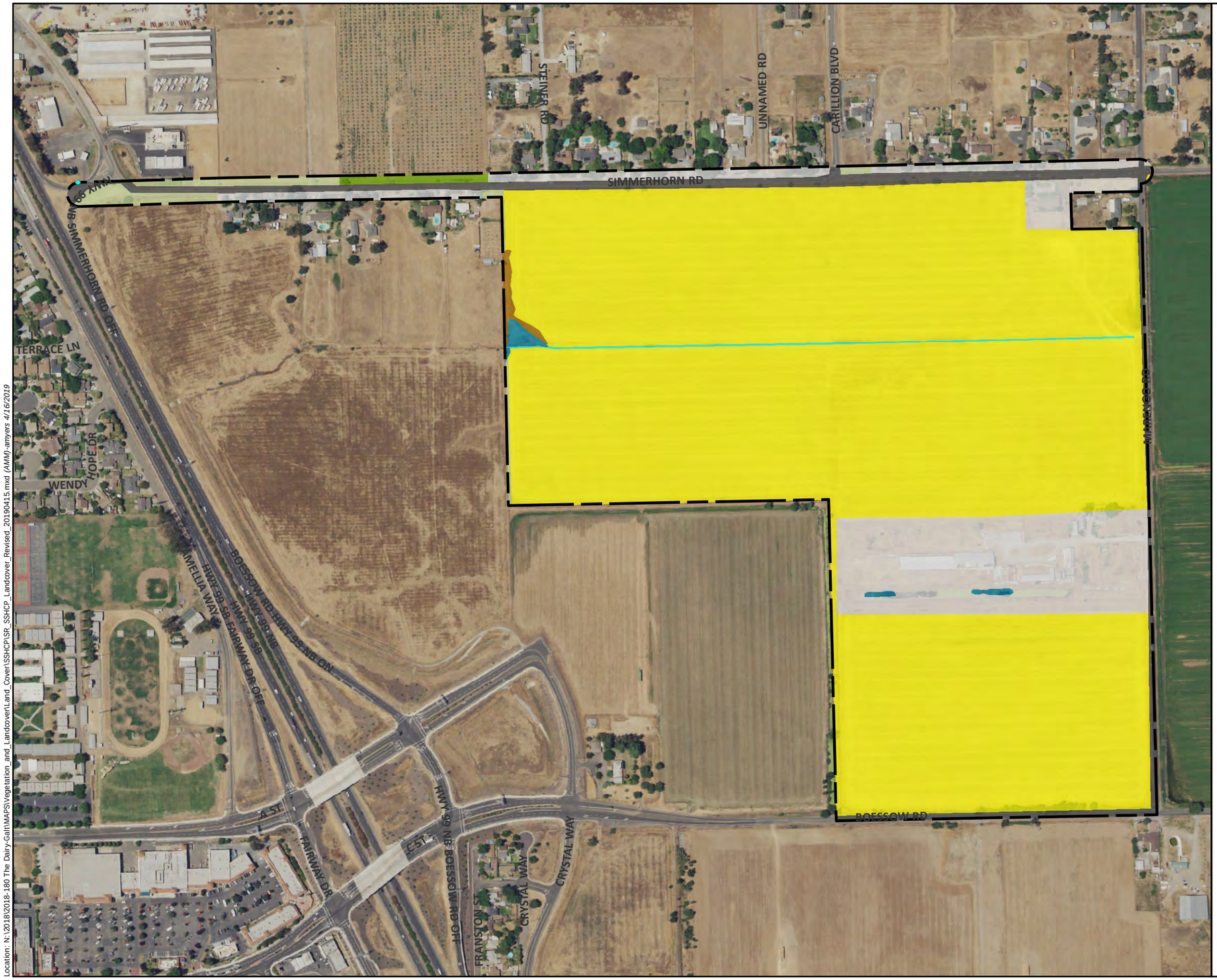


Figure 3.
Original South Sacramento Habitat Conservation Plan Land Cover

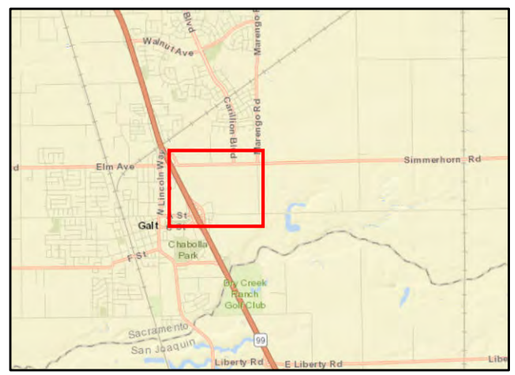
Map Features

- Study Area - 126.71 acres

SSHCP Landcover

- Cropland 101.81 acres
- High Density Development - 0.0001 acre
- Irrigated Pasture-Grassland - 0.51 acre
- Low Density Development - 16.32 acres
- Major Roads - 5.28 acres
- Mixed Riparian Scrub - 0.33 acre
- Streams/Creeks - 0.35 acre
- Valley Grassland - 1.71 acres
- Vernal Pool - 0.39 acre

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



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2018-180 Simmerhorn Ranch

Scale in Feet
0 420

Photo Source: 2016, NAIP

Map Date: 4/16/2019

Location: N:\2018\2018-180 The Dairy-Galt\MAPS\Vegetation_and_Landcover\Land_Cover\SSHCP\SR_SSHCP_Landcover_Revised_20190415.mxd (AMM)-amyers 4/16/2019

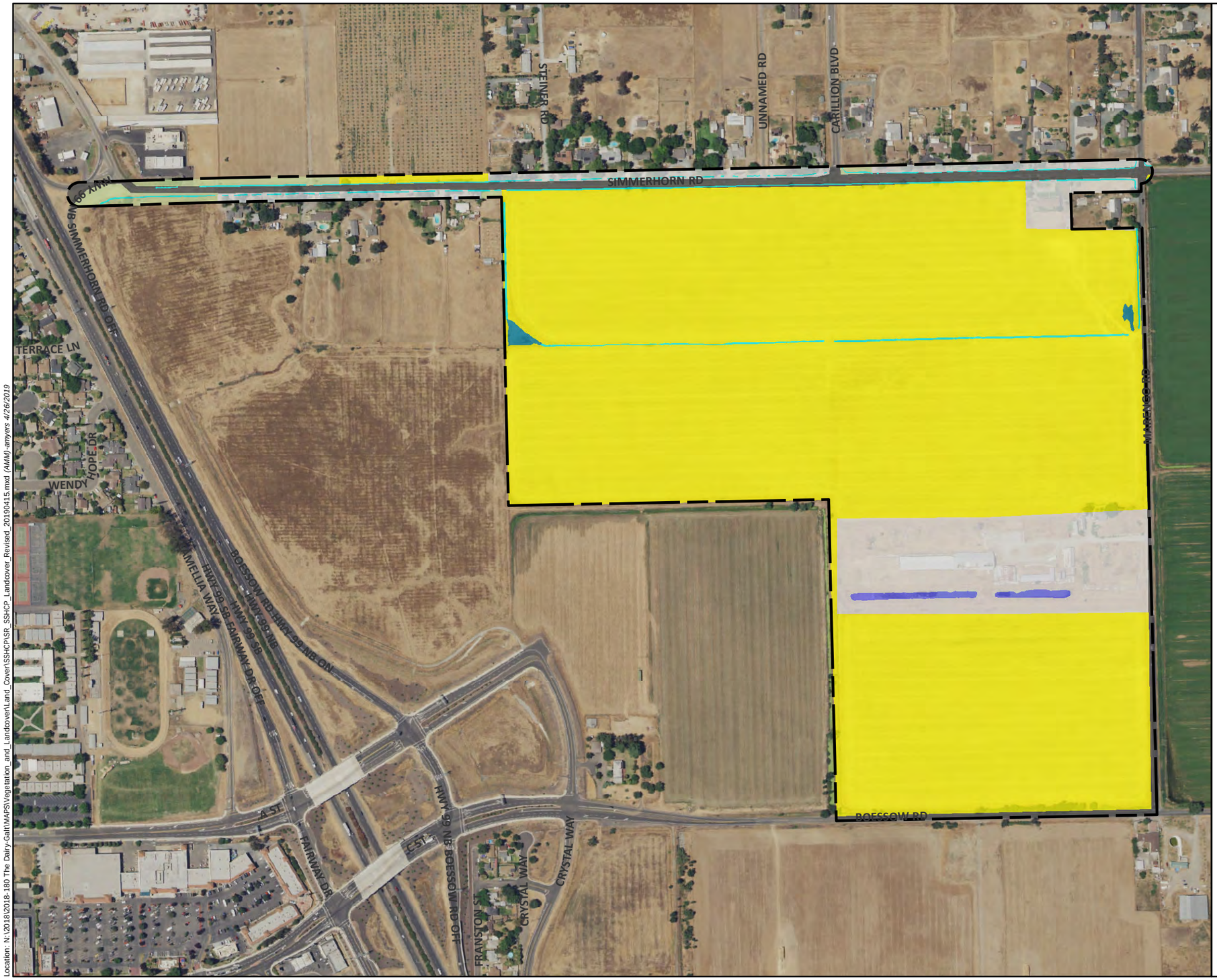
Figure 4.
Revised South Sacramento Habitat Conservation Plan Land Cover

Map Features

- Study Area - 126.71 acres

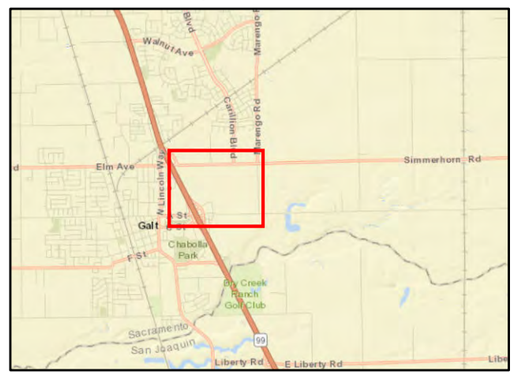
SSHCP Revised Landcover

- Cropland - 102.75 acres
- Low Density Development - 15.80 acres
- Major Roads - 5.10 acres
- Seasonal Wetland - 0.47 acres
- Streams/Creeks (non VPIH) - 0.89 acres
- Valley Grassland - 1.43 acres
- Vernal Pool - 0.28 acres



Location: N:\2018\2018-180 The Dairy-Galt\MAPS\Vegetation_and_Landcover\Land_Cover\SSHCP\SR_SSHCP_Landcover_Revised_20190415.mxd (AMM)-amyers 4/26/2019

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2018-180 Simmerhorn Ranch

Scale in Feet
0 420

Photo Source: 2016, NAIP

Map Date: 4/26/2019

Table 2. Land Cover Types within Study Area	
SSHCP Land Cover Type (Aquatic Resource Delineation Wetland Type)	**Acreage**
Cropland	102.75
Low Density Development	15.80
Major Roads	5.10
Valley Grassland	1.43
Seasonal Wetland	0.47
Streams/Creeks-non VPIH* (Drainage Ditches)	0.89
Vernal Pool (Seasonal Wetland)	0.28
Total:	**126.72**

*VPIH – Vernal pool invertebrate habitat

4.3.1 Terrestrial Land Cover Types

Based on the site assessment, the primary SSHCP Terrestrial Land Cover types within the Study Area include Cropland, Low-Density Development, and Major Roads (Figure 4). The SSHCP Terrestrial Land Cover data for the Study Area also described Mixed Riparian Scrub land cover and Valley Grassland land cover but these were removed from the land cover map as they were determined to not be present within the Study Area during the site assessment.

Cropland

The Cropland land cover type includes annual row and field crops, as well as short-term perennial crops. Within the Study Area, the Cropland land cover is dominated by Italian ryegrass (*Festuca perennis*). Other plant species scattered throughout the Study Area within the Cropland land cover include prickly lettuce (*Lactuca serriola*), prostrate knotweed (*Polygonum aviculare* ssp. *depressum*), and morning glory (*Convolvulus arvensis*).

Low-Density Development

The Low-Density Development land cover type consists of existing rural residential development including buildings/structures and ornamental trees. Trees are described further in Section 3.8. This land cover also corresponds to the extent of defunct dairy structures and infrastructure. Ruderal vegetation is present within this land cover and is dominated primarily by a mix of nonnative annual grasses and forbs such as wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), milk thistle (*Silybum marianum*), prickly lettuce, and goose grass (*Galium aparine*).

Major Road

The Major Road land cover type consists of portions of existing paved roads (Simmerhorn Road, Marengo Road, and Boessow Road) within the Study Area.

Valley Grassland

The Valley Grassland land cover type consists of annual grassland along a portion of Simmerhorn Road. Within the Study Area, the Valley Grassland land cover is dominated by soft brome (*Bromus hordeaceus*), Italian ryegrass, and bur clover (*Medicago polymorpha*).

4.3.2 SSHCP Aquatic Land Cover Types and Aquatic Resources

An aquatic resources delineation has been conducted for the Study Area, in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). A total of 1.641 acres of aquatic resources have been mapped within the Study Area (ECORP 2019). Based on the SSHCP Aquatic Land Cover types these aquatic resources are Vernal Pools (seasonal wetlands that provide vernal pool invertebrate habitat), Seasonal Wetland (seasonal wetlands that do not provide vernal pool invertebrate habitat), and Stream/Creek non-vernal pool invertebrate habitat (VPIH) (Figure 4). Based on aquatic resource terminology, these features include seasonal wetlands and drainage ditches; an aquatic resources delineation map is presented in Figure 5. *Aquatic Resources Delineation*.

A discussion of the aquatic resources found onsite is presented below by SSHCP Aquatic Land Cover Type (Aquatic Resource type).

Vernal Pool (Seasonal Wetland)

Under the SSHCP, the Vernal Pool aquatic land cover type is described as seasonal ephemeral wetlands that fill and dry each year. In Central Valley annual grasslands, they form in shallow depressions that are underlain with a soil or a soil layer impermeable to water. Two of the seasonal wetlands in the Study Area (SW-02 and SW-03, Figure 5) are characterized as Vernal Pool aquatic land cover type under the SSHCP due to their capacity to provide vernal pool invertebrate habitat (Figure 4). Dominant plant species observed within these features include rabbitsfoot grass (*Polypogon monspeliensis*), barnyard grass (*Echinochloa crus-galli*), and Italian ryegrass.

Seasonal Wetland (Seasonal Wetland)

Under the SSHCP, the Seasonal Wetland aquatic land cover type is characterized as wetlands that pond for an extended period during a portion of the year, generally filling during the rainy winter season and drying relatively slowly, typically in the summer or early fall. Seasonal Wetlands tend to be isolated wetlands that occur within moderate to large depressional features along streams, creeks, and rivers; along the edges of open water, or scattered within the Valley Grassland land cover. In addition, some impounded drainages, excavated stock ponds, and graded or excavated former vernal pools can also be Seasonal Wetland. There are two seasonal wetlands with the Study Area that are remnant defunct dairy ponds used for storage of effluent runoff that were excavated when the site was an active dairy. These seasonal wetlands (SW-01 and SW-04, Figure 5) do not represent habitat for vernal pool invertebrates and as such are considered to be Seasonal Wetland under the SSHCP aquatic land cover type (Figure 4). Dominant plant species observed within these seasonal wetlands include curly dock (*Rumex crispus)*, goose grass, rabbitsfoot grass, and prickly lettuce

Figure 5.
Aquatic Resource Delineation

Map Features

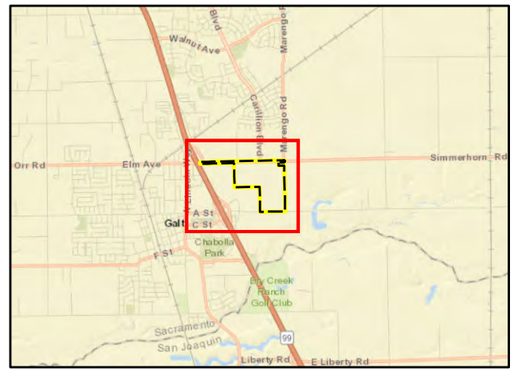
- Study Area - 126.71 acres
- Culvert

Waters of the U.S. (1.641 acres)[1]

- Ditch - 0.894 total acre
- Seasonal Wetland - 0.747 total acre

[1] *The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.*
** The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.*

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



ECORP Consulting, Inc.
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2018-180 Simmerhorn Ranch

Scale in Feet
0 500

Photo Source: USGS 2009 (SACOG)
Boundary Source: Wood Rodgers
Delineator(s): Clay DeLong and Emily Mecke
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Map Date: 4/30/2019

ECORP: N:\2018\2018-180 THE DAIRY-GALT\MAPS\SS_SURVEY_AND_MAPPING\SSHCP_MODEL\EDHABISR_WETDELIN_BIO_20190416.MXD(AMM) -AMYERS 4/30/2019

Stream/Creek non-VPIH (Drainage Ditches)

Under the SSHCP, the Stream/Creek land cover type includes intermittent and perennial linear water features such as rivers, streams, creeks, drainages, and roadside and irrigation ditches.

These features typically exhibit a bed and bank and an ordinary high-water mark. These features do not represent habitat for vernal pool invertebrates due to the highly ephemeral nature of the features.

In the Study Area, drainage ditches are linear features constructed to convey water. These features occur along roads on the northern boundary (Simmerhorn Road); along a portion of the eastern boundary; along a portion of the western boundary; and through the northern portion of the Study Area in an east to west alignment (Figure 5). Drainage ditches in the Study Area are dominated by dallis grass (*Paspalum dilatatum*), tall flatsedge (*Cyperus eragrostis*), barnyard grass, and curly dock.

4.4 Wildlife

Wildlife species observed within and around the Study Area during the November 7, 2018 site visit are listed in Attachment D.

4.5 Evaluation of Special-Status Species

Based on SSHCP-Modeled Species Habitat data, the Study Area contains habitat for 23 Covered Species. SSHCP-Modeled Species Habitat maps are provided in Attachment E. Five SSHCP-Covered Species were determined to be absent from the Study Area because no SSHCP-Modeled Species Habitat existed within the Study Area.

The literature sources described in Section 2.1 were queried for any species other than the SSHCP-Covered Species. These queries resulted in an additional 11 species considered to have potential or low potential to occur.

Tabulated results of all species evaluated for the Study Area are presented in Attachment C. For each of the 34 species that were considered (1) to be present, or (2) have potential to occur, or (3) have low potential to occur (according to the definitions in Section 3.2) are summarized in Table 3, and species descriptions are provided in the following sections. Species that were considered to be absent from the Study Area due to the lack of suitable habitat, or because the known distribution of the species does not include the Study Area vicinity, are not discussed further in this document.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CESA	Other			
Plants						
Bristly sedge *(Carex comosa)*	–	–	2B.1	Marshes and swamps, including lake margins, coastal prairie, and valley and foothill grassland (0'–2,051').	May–September	Low potential to occur. Marginal habitat is present onsite.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CE SA	Other			
Valley brodiaea *(Brodiaea rosea* ssp. *vallicola)*	-	-	4.2	Old alluvial terraces; silty, sandy, and gravelly loam soils in swales within Valley and foothill grassland and vernal pools	April-May (June)	Low potential to occur. Marginal habitat present onsite.
Succulent Owl's Clover *(Castilleja campestris* ssp. *succulenta)*	FT	CE	1B.2	Vernal pools, often in acidic environments. (164'–2,461').	April–May	Low potential to occur. Marginal habitat is present onsite.
Parry's rough tarplant *(Centromadia parryi* ssp. *rudis)*	–	–	4.2	Alkaline, vernally mesic areas and seeps in valley and foothill grassland, vernal pools, sometimes found on roadsides (0'–328').	May–October	Low potential to occur. Marginal habitat is present onsite.
Dwarf downingia *(Downingia pusilla)*	–	–	2B.2, SSHCP-Covered Species	Mesic areas in valley and foothill grassland, and vernal pools. Species appears to have an affinity for slight disturbance (i.e., scraped depressions, ditches, etc.) (Baldwin et al. 2012, CDFW 2019a) (3'–1,460').	March–May	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Boggs Lake hedge–hyssop *(Gratiola heterosepala)*	–	CE	1B.2, SSHCP-Covered Species	Marshes, swamps, lake margins, and vernal pools (33'–7,792').	April–August	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Hogwallow starfish *(Hesperevax caulescens)*	–	–	4.2	Mesic areas with clay soils and shallow vernal pools within valley and foothill grassland, sometimes in alkaline soils (0'–1,657').	March–June	Low potential to occur. Marginal habitat is present onsite.
Ferris' goldfields *(Lasthenia ferrisiae)*	–	–	4.2	Alkaline and clay vernal pools (66'–2,297').	February–May	Low potential to occur. Marginal habitat is present onsite.
Legenere *(Legenere limosa)*	–	–	1B.1, SSHCP-Covered Species	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'–2,887').	April–June	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Heckard's pepper–grass *(Lepidium latipes* var. *heckardii)*	–	–	1B.2	Alkaline flats within valley and foothill grasslands (7'–656').	March–May	Low potential to occur. Marginal habitat is present onsite.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CESA	Other			
Hoary navarretia *(Navarretia eriocephala)*	-	-	4.3	Vernally mesic areas in cismontane woodland and valley and foothill grassland (345' - 1,312').	May-June	Potential to occur.
Sanford's arrowhead *(Sagittaria sanfordii)*	–	–	1B.2, SSHCP-Covered Species	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Saline clover *(Trifolium hydrophilum)*	–	–	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland, and vernal pools (0'–984').	April–June	Low potential to occur. Marginal habitat is present onsite.
Invertebrates						
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	SSHCP-Covered Species	Vernal pools/wetlands.	November-April	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Midvalley fairy shrimp *(Branchinecta mesovallensis)*	-	-	CNDDB, SSHCP-Covered Species	Vernal pools/wetlands.	November – April	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	SSHCP-Covered Species	Elderberry shrubs.	Any season	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	-	-	SSHCP-Covered Species	Vernal pools/wetlands.		Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	SSHCP-Covered Species	Vernal pools/wetlands.	November-April	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Amphibians						
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	SSC, SSHCP-Covered Species	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Western spadefoot (*Spea hammondii*)	-	-	SSC, SSHCP-Covered Species	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CE SA	Other			
Reptiles						
Northwestern pond turtle (*Actinemys marmorata*)	-	-	SSC, SSHCP-Covered Species	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Birds						
Burrowing owl *(Athene cunicularia)*	-	-	BCC, SSC, SSHCP-Covered Species	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Cooper's hawk *(Accipiter cooperii)*	-	-	CDFW WL, SSHCP-Covered Species	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes	March-July	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Ferruginous hawk (*Buteo regalis*)	-	-	BCC, CDFW WL, SSHCP-Covered Species	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September-March (wintering)	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Greater sandhill crane *(Antigone canadensis tabida)*	-	CT	CFP, SSHCP Covered Species	Breeds in NE California, Nevada, Oregon, Washington, and BC, Canada; winters from CA to Florida. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	March-August (breeding); September-March (wintering)	Potential to Occur. SSHCP Modeled Species Habitat present onsite.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CESA	Other			
Loggerhead shrike (*Lanius ludovicianus*)	-	-	BCC, SSC, SSHCP-Covered Species	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats.	March-July	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Merlin *(Falco columbarius)*	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	September–April (wintering in the Central Valley); does not breed in California	Potential to Occur. Winter foraging habitat present.
Northern harrier (*Circus hudsonius*)	-	-	SSC, SSHCP-Covered Species	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, Croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April-September	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Song sparrow "Modesto" (*Melospiza melodia heermanni*)	-	-	BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April–June	Potential to occur.
Swainson's hawk (*Buteo swainsoni*)	-	CT	BCC, SSHCP-Covered Species	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during discing/harvesting, irrigated pastures	March-August	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CESA	Other			
Tricolored blackbird (*Agelaius tricolor*)	-	CT	BCC, SSC, SSHCP-Covered Species	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
White-tailed kite (*Elanus leucurus*)	-	-	CFP, SSHCP-Covered Species	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.
Mammals						
Western red bat (*Lasiurus blossevillii*)	-	-	SSC, SSHCP-Covered Species	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (Western Bat Working Group [WBWG] 2018).	April-September	Potential to Occur. SSHCP-Modeled Species Habitat present onsite.

Table 3. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur On-Site
	ESA	CESA	Other			
American badger *(Taxidea taxus)*	-	-	SSC, SSHCP-Covered Species	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Potential to Occur. SSHCP- Modeled Species Habitat present onsite.

Status Codes:

ESA	Endangered Species Act
CESA	California Endangered Species Act
FE	ESA listed, Endangered.
FT	ESA listed, Threatened.
BCC	USFWS Bird of Conservation Concern
CFP	California Fish and Game Code Fully Protected Species
CE	CESA or NPPA listed, Endangered.
CT	CESA or NPPA listed, Threatened.
CNDDB	California Natural Diversity Database
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern
SSHCP	South Sacramento Habitat Conservation Plan
1B	California Rare Plant Ranks (CRPRs)/Rare or Endangered in California and elsewhere.
2B	CRPR /Rare or Endangered in California, more common elsewhere.
4	CRPR /Plants of Limited Distribution - A Watch List.
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.5.1 Special-Status Plants

Four SSHCP-Covered Species plants were determined to have the potential to occur within the Study Area based on presence of SSHCP-Modeled Species Habitat, and nine other species were identified as having potential or low potential to occur within the Study Area based on the literature review and site assessment (Table 2). Brief descriptions of these species are presented in the following sections.

Bristly Sedge

Bristly sedge (*Carex comosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.1 plant. This species is a perennial rhizomatous herb that occurs in coastal prairies, marshes and swamps including lake margins, and in Valley and foothill grassland (CNPS 2019). Bristly sedge blooms from May through September and is known to occur at elevations ranging from sea level to 2,051 feet above MSL (CNPS 2019). The current range of this species in California includes Contra Costa, Lake, Mendocino, Sacramento, San Bernardino, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma counties, and is considered to be extirpated from San Bernardino and San Francisco counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Valley Grassland and ruderal vegetation in the Low-Density Development

portion of the Study Area provides marginal habitat for this species. Bristly sedge has low potential to occur within the Study Area.

Valley Brodiaea

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is a bulbiferous perennial herb that occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within Valley and foothill grassland (CNPS 2019). Valley brodiaea blooms from April through May (sometimes June) and is known to occur at elevations ranging from 32 feet to 1,100 feet above MSL (CNPS 2019). Valley brodiaea is endemic to California; the current range of this species includes Butte, Calaveras, Nevada, Placer, Sacramento, San Joaquin, Sutter, and Yuba counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands) and Stream/Creeks (drainage ditches) within the Study Area provide marginal habitat for this species. Valley brodiaea has low potential to occur within the Study Area.

Succulent Owl's Clover

Succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) is listed as threatened pursuant to the federal ESA, endangered pursuant to the California ESA, and is designated as a CRPR 1B.2 species. This species is a hemiparasitic herbaceous annual that occurs in vernal pools that are often acidic (CNPS 2019). Succulent owl's clover blooms from April to May and is known to occur at elevations ranging from 164 to 2,461 feet above MSL (CNPS 2019). Succulent owl's clover is endemic to California; the current range of this species includes Fresno, Madera, Merced, Mariposa, San Joaquin, and Stanislaus counties (CNPS 2019).

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2019a). The Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Study Area provide marginal habitat for this species. Succulent owl's clover has low potential to occur within the Study Area.

Parry's Rough Tarplant

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in Valley and foothill grassland with alkaline and vernally mesic soils, seeps, and sometimes roadsides (CNPS 2019). Parry's rough tarplant blooms from May to October and is known to occur at elevations ranging from sea level to 328 feet above MSL (CNPS 2019). Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Sacramento, San Joaquin, Solano, Sutter and Yolo counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and ruderal vegetation in the Low-Density Development portion of the Study Area provide marginal habitat for this species. Parry's rough tarplant has low potential to occur within the Study Area.

Dwarf Downingia

Dwarf downingia (*Downingia pusilla*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is an herbaceous annual that occurs in vernal pools and mesic areas in Valley and foothill grasslands (CNPS 2019). Dwarf downingia also appears to have an affinity for slight disturbance since it has been found in manmade features such as tire ruts, scraped depressions, stock ponds, and roadside ditches (Baldwin et al. 2012, CDFW 2019a). This species blooms from March through May and is known to occur at elevations ranging from 3 to 1,460 feet above MSL (CNPS 2019). The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for dwarf downingia and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) and Stream/Creeks (drainage ditches) within the Study Area provide suitable habitat for this species. Dwarf downingia has potential to occur within the Study Area.

Boggs Lake Hedge-Hyssop

Boggs Lake hedge-hyssop (*Gratiola heterosepala*) is not listed pursuant to the federal ESA, but is listed as endangered pursuant to the California ESA, and a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes, swamps, lake margins, and vernal pools (CNPS 2019). Boggs Lake hedge-hyssop blooms from April through August and is known to occur at elevations ranging from 33 to 7,792 feet above MSL (CNPS 2019). The current range of this species in California includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma, and Tehama counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for Boggs lake hedge-hyssop and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Study Area provide suitable habitat for this species.

Boggs lake hedge-hyssop has potential to occur within the Study Area.

Hogwallow Starfish

Hogwallow starfish (*Hesperevax caulescens*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in mesic, clay areas within Valley and foothill grassland, and shallow vernal pools, sometimes in alkaline areas (CNPS 2019). Hogwallow starfish blooms from March through June and is known to occur from sea level to 1,657 feet above MSL (CNPS 2019). Hogwallow starfish is endemic to California; the current range of this species includes Alameda, Amador, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Merced, Monterey, Napa, Sacramento, San Diego, San Joaquin, San Luis Obispo, Solano, Stanislaus, Sutter, Tehama, and Yolo counties, and is considered to be extirpated in Napa and San Diego counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and ruderal vegetation in the Low-Density Development portion of the Study Area provide marginal habitat for this species. Hogwallow starfish has low potential to occur within the Study Area.

Ferris' Goldfields

Ferris goldfields (*Lasthenia ferrisiae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in alkaline and clay soils in vernal pools (CNPS 2019). Ferris goldfields blooms between February and May and is known to occur at elevations ranging from 66 to 2,297 feet above MSL (CNPS 2019). Ferris goldfields is endemic to California; its current range includes Alameda, Butte, Contra Costa, Colusa, Fresno, Kings, Kern, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, Solano, Stanislaus, Tulare, Ventura and Yolo counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Study Area provide marginal habitat for this species. Ferris' goldfields has low potential to occur within the Study Area.

Legenere

Legenere (*Legenere limosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005). Legenere blooms from April through June and is known to occur at elevations ranging from 3 to 2,887 feet above MSL (CNPS 2019). Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama and Yuba counties and is believed to be extirpated from Stanislaus County (CNPS 2019).

There are two documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for legenere and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) provide marginal habitat for this species. Legenere has low potential to occur within the Study Area.

Heckard's Pepper-Grass

Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs on alkaline flats within Valley and foothill grasslands (CNPS 2019). Heckard's pepper-grass blooms from March through May and is known to occur at elevations ranging from 7 to 656 feet above MSL (CNPS 2019). Heckard's pepper-grass is endemic to California; the current range of this species includes Glenn, Merced, Sacramento, Solano, and Yolo counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Valley Grassland and ruderal vegetation in the Low-Density Development portion of the Study Area provides marginal habitat for this species. Heckard's pepper-grass has low potential to occur within the Study Area.

Hoary Navarretia

Hoary navarretia (*Navarretia eriocephala*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs in vernally mesic areas within cismontane woodland and valley and foothill grassland (CNPS 2019). Hoary navarretia blooms between May and June and is known to occur at elevations ranging from 345 to 1,312 feet above MSL (CNPS 2019). Hoary navarretia is endemic to California; its current range includes Amador, Calaveras, El Dorado, Placer, and Sacramento counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and ruderal vegetation in the Low-Density Development portion of the Study Area provide marginal habitat for this species. Hoary navarretia has low potential to occur within the Study Area.

Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not listed pursuant to the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a rhizomatous, herbaceous perennial that occurs in shallow marshes and freshwater swamps (CNPS 2019). Sanford's arrowhead blooms from May through November and is known to occur at elevations ranging from sea level to 2,133 feet above MSL (CNPS 2019). Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, Tulare, Ventura and Yuba counties; it is believed to be extirpated from both Orange and Ventura counties (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for Sanford's arrowhead and the Stream/Creeks (drainage ditches) within the Study Area provide suitable habitat for this species. Sanford's arrowhead has potential to occur within the Study Area.

Saline Clover

Saline clover (*Trifolium hydrophilum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes and swamps, mesic and alkaline Valley and foothill grassland, and vernal pools (CNPS 2019). Saline clover blooms between April and June and is known to occur at elevations ranging from sea level to 984 feet above MSL (CNPS 2019). Saline clover is endemic to California; its current range includes Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma and Yolo counties; however, distribution and identity are uncertain in Colusa County (CNPS 2019).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, and ruderal vegetation in the Low-Density Development portion of the Study Area provide marginal habitat for this species. Saline clover has low potential to occur within the Study Area.

4.5.2 Invertebrates

Five SSHCP-Covered Species invertebrates were determined to have the potential to occur within the Study Area based on SSHCP-Modeled Species Habitat. No additional invertebrate species were identified as having the potential to occur within the Study Area based on the literature review and site assessment (Table 2). Brief descriptions of these species are presented in the following sections.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened in accordance with the federal ESA. Vernal pool fairy shrimp may occur in seasonal ponds, vernal pools, and swales during the wet season, which generally occurs from December through May. This species can be found in a variety of pool sizes, ranging from less than 0.001 acre to more than 24.5 acres (Eriksen and Belk 1999). The shrimp hatch from cysts when colder water (10°C [50°F] or less) fills the pool and mature in as few as 18 days, under optimal conditions (Eriksen and Belk 1999). At maturity, mating takes place and cysts are dropped. Vernal pool fairy shrimp occur in disjunct patches dispersed across California's Central Valley from Shasta County to Tulare County, the central and southern Coast Ranges from northern Solano County to Ventura County, and three areas in Riverside County (USFWS 2003a).

There are seven documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for vernal pool fairy shrimp and the Vernal Pools (seasonal wetlands SW-02 and SW-03) within the Study Area provide suitable habitat for this species. Vernal pool fairy shrimp has potential to occur within the Study Area.

Mid-Valley Fairy Shrimp

The Midvalley fairy shrimp (*Branchinecta mesovallensis*) is not listed pursuant to either the California or federal ESAs, but occurrences of this species are tracked by the CNDDB. The Midvalley fairy shrimp was formally described as a species in 2000 (Belk and Fugate 2000). This species typically occurs in small, shallow vernal pools, swales, and various artificial ephemeral wetland types (e.g., roadside puddles, scrapes and ditches, and railroad toe-drain pools) (Belk and Fugate 2000, USFWS 2004). Midvalley fairy shrimp have been collected from late January to early April (Eriksen and Belk 1999). The cysts typically hatch in the first week of pool filling if water temperatures are near 10°C (50°F) (Eriksen and Belk 1999). This species has been documented in several California counties including: Sacramento, Solano, Contra Costa, San Joaquin, Madera, Merced, Fresno, and Yolo (Belk and Fugate 2000, USFWS 2004).

There are five documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for Midvalley fairy shrimp and the Vernal Pools (seasonal wetlands SW-02 and SW-03) within the Study Area provide suitable habitat for this species. Midvalley fairy shrimp has potential to occur within the Study Area.

Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*, VELB) is listed as threatened in accordance with ESA (USFWS 1980). The VELB is completely dependent on its larval host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities (USFWS 1999; USFWS 2017). Elderberry plants, located within the range of the beetle, with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species (USFWS 1999). The adult flight season extends from late March through July (USFWS 2017). During that time the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years, feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al. 2007). The VELB occurs in metapopulations throughout the Central Valley (Collinge et. al 2001 as cited in USFWS 2017). These metapopulations (subpopulations) occur throughout contiguous riparian habitat, which shift temporarily and spatially based on changing environmental conditions. This temporal and spatial shifting of the metapopulations results in a patchy and ever-changing distribution of the species. Research indicates that dense elderberry shrub clumps in healthy riparian habitat is the primary habitat for the VELB (USFWS 2017). The beetle's current distribution extends from Shasta County in the north to Fresno County in the south and includes everything from the valley floor up into the lower foothills (USFWS 2017). The vast majority of VELB occurrences have been recorded below 500 feet (152 meters), however, rare occurrences have been recorded up to approximately 3,000 feet (USFWS 1999; USFWS 2017).

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for VELB and five elderberry shrubs were mapped in the northwest corner of the Study Area during the November 2018 site visit. VELB has potential to occur within the Study Area.

Ricksecker's Water Scavenger Beetle

Ricksecker's water scavenger beetle (*Hydrochara ricksecker*i) is not listed and protected under either the federal or California ESAs, but is currently tracked by CDFW in the CNDDB. Ricksecker's water scavenger beetles inhabit ponds in the Coast Range and Central Valley.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for Ricksecker's water scavenger beetle and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Study Area provide suitable habitat for this species. Ricksecker's water scavenger beetle has potential to occur within the Study Area.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp (*Lepidurus packardi*) is listed as endangered pursuant to the federal ESA. This species inhabits vernal pools containing clear to highly turbid water, ranging in size from 0.001 to 89.0 acres (USFWS 1994). Vernal pool tadpole shrimp are distinguished from other vernal pool branchiopods discussed in this report by a large, shield like carapace that covers the anterior half of their

body (USFWS 2003a). Cysts hatch during the wet season and the shrimp reach maturity in a few weeks. This species matures slowly and is long lived, relative to other species. Vernal pool tadpole shrimp will continue to grow as long as the pools they occur in remain inundated, and in some instances can survive for six months or longer (USFWS 2003a). The geographic range of vernal pool tadpole shrimp extends from Shasta County to northern Tulare County in California's Central Valley, and in the central coast range from Solano County to Alameda County (USFWS 2003a).

There are six documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for vernal pool tadpole shrimp and the Vernal Pools (seasonal wetlands SW-02 and SW-03) within the Study Area provide suitable habitat for this species. Vernal pool tadpole shrimp is considered present within the Study Area.

4.5.3 Amphibians

Two SSHCP-Covered Species amphibians were determined to have the potential to occur within the Study Area based on SSHCP-Modeled Species Habitat. No additional amphibian species were identified as having the potential to occur within the Study Area based on the literature review and site assessment (Table 2). A brief description of these species are presented in the following sections.

California Tiger Salamander

The Central Valley Distinct Population Segment (DPS) of California tiger salamander (*Ambystoma californiense*) is listed as threatened under the federal ESA. The Santa Barbara County and Sonoma County DPS of California tiger salamander are federally listed as endangered. The species is listed as threatened under California's ESA throughout its range. The California tiger salamander occurs from Yolo County (Dunnigan area) south through the Central Valley to Kern County, and discontinuously from Santa Barbara County north through the inner coast range to Sonoma County (USFWS 2003b, USFWS 2015). Necessary habitat components include extensive uplands and breeding ponds. Tiger salamanders spend most of their adult life within underground refugia, such as California ground squirrel (*Otospermophilus beecheyi*) or Botta's pocket gopher (*Thomomys bottae*) burrows. Breeding sites include vernal pools, seasonal wetlands, stock ponds, or slow-moving streams that do not support fish, although streams are rarely used for reproduction. This species may use permanent manmade ponds for reproduction if predatory species (e.g., fish, crayfish) are absent.

There are three documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for California tiger salamander and the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, Cropland, and ruderal vegetation within the Low-Density Development within the Study Area provide suitable habitat for this species. California tiger salamander has potential to occur within the Study Area.

Western Spadefoot

The western spadefoot (*Spea hammondii*) is not listed pursuant to either the federal or California ESAs; however, it is designated as a CDFW SSC. Necessary habitat components of the western spadefoot include loose, friable soils in which to burrow in upland habitats and breeding ponds. Breeding sites

include temporary rain pools, such as vernal pools and seasonal wetlands, or pools within portions of intermittent drainages (Jennings and Hayes 1994). Spadefoots spend most of their adult life within underground burrows or other suitable refugia, such as rodent burrows. In California, western spadefoot toads are known to occur from the Redding area, Shasta County southward to northwestern Baja California, at elevations below 4,475 feet (Jennings and Hayes 1994).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for western spadefoot and the Vernal Pools/Seasonal Wetlands (seasonal wetlands) within the Study Area provide suitable habitat for this species. Western spadefoot has potential to occur within the Study Area.

4.5.4 Reptiles

One SSHCP-Covered Species reptile was determined to have the potential to occur within the Study Area based on SSHCP-Modeled Species Habitat. No additional reptile species were identified as having the potential to occur within the Study Area based on the literature review and site assessment (Table 2). A brief description of this species is presented in the following section.

Northwestern Pond Turtle

The northern western pond turtle (*Actinemys marmorata*) is not listed pursuant to either the federal or California ESAs; however, it is designated as a CDFW SSC. Western pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow-moving streams (Jennings and Hayes 1994). This species is primarily aquatic; however, they typically leave aquatic habitats in the fall to reproduce and to overwinter (Jennings and Hayes 1994). Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles and hatchlings require shallow edgewater with relatively dense submergent or short emergent vegetation in which to forage. Western pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August (Jennings and Hayes 1994). Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions (Jennings and Hayes 1994). The majority of nesting sites are located within 650 feet (200 meters) of the aquatic sites; however, nests have been documented as far as 1,310 feet (400 meters) from the aquatic habitat.

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for northwestern pond turtle and the Stream/Creeks (drainage ditches) within the Study Area provide suitable habitat for this species. Northern western pond turtle has potential to occur within the Study Area.

4.5.5 Birds

Eight SSHCP-Covered Species birds were determined to have the potential to occur within the Study Area based on SSHCP-Modeled Species Habitat, and two other species were identified as having the potential

to occur within the Study Area based on the literature review and site assessment (Table 2). Brief descriptions of these species are presented in the following sections.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is not listed pursuant to either the federal or California ESAs; however, it is designated as a BCC by the USFWS and an SSC by the CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Poulin et al. 2011). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use manmade structures such as cement culverts or pipes; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (CDFG 2012). The breeding season typically occurs between February 1 and August 31 (CDFG 2012).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for western burrowing owl and the Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development portion of the Study Area provide suitable habitat for this species. Burrowing owl has potential to occur within the Study Area.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the federal or California ESAs. However, it is a CDFW "watch list" species and is currently tracked in the CNDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawk nest throughout California from Siskiyou County to San Diego County, and includes the Central Valley (Curtis et al. 2006). Breeding occurs during March through July, with a peak from May through July.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for Cooper's hawk and the trees, Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable nesting and foraging habitat for this species. Cooper's hawk has potential to occur within the Study Area.

Ferruginous Hawk

Ferruginous hawks (*Buteo regalis*) are not listed pursuant to either the federal or California ESAs. However, they are a CDFW "watch list" species and USFWS BCC. This species typically occurs in open environments and nests from Oregon to Canada, though nesting has recently been documented in Lassen County, California (Small 1994). For the remainder of the state, including the Central Valley, ferruginous hawk occurrences are restricted to the non-breeding season (approximately September through March) (Small 1994). Winter foraging habitat includes a variety of open communities including annual grasslands, agricultural areas, deserts, and savannahs. Ferruginous hawks do not nest in the region but may

occasionally forage within grassland and other open vegetation communities on-site during winter or migration.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for ferruginous hawk and the trees, Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable habitat for this species. Ferruginous hawk has potential to occur within the Study Area.

Greater Sandhill Crane

Greater sandhill crane (*Antigone canadensis tabida*) is listed as a threatened species by CDFW and is protected pursuant to the California ESA, but has no federal special status. In addition, the greater sandhill crane is fully protected pursuant to the California Fish and Game Code. This subspecies nests in northeastern California (Modoc, Siskiyou, Lassen, and Shasta County and formerly in the Sierra Valley, Sierra and Plumas County) (Small 1994) and winters in the Central Valley. Nesting occurs during March through August. Wintering habitat includes wetlands and agricultural fields (Gerber et al. 2014).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for greater sandhill crane and the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable habitat for this species. Greater sandhill crane has potential to occur within the Study Area.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is not listed pursuant to either the federal or California ESAs; but is considered a BCC by the USFWS and an SSC by the CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts (Small 1994). Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 1996). The nesting season extends from March through July.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for loggerhead shrike and the trees, Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable habitat for this species. Loggerhead shrike has potential to occur within the Study Area.

Merlin

The Merlin (*Falco columbarius*) is not listed pursuant to either the California or federal ESAs, but is a CDFW "watch list" species and currently tracked in the CNDDB. This falcon breeds in Canada and Alaska and occurs in California as a migrant and during the non-breeding season (September through April). Foraging habitat in winter includes open forests, grasslands, and tidal flats (Warkentin et al. 2005). Merlin

do not nest in the region but may occasionally forage within grassland and woodland communities on-site during winter or migration.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). The Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development portion of the Study Area provide suitable wintering habitat for this species. Merlin has potential to occur within the Study Area.

Northern Harrier

The northern harrier (*Circus cyaneus*) is not listed pursuant to either the federal or California ESAs; however, it is considered to be an SSC by the CDFW. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities usually in areas with dense vegetation (Smith et al. 2011). Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April through September.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for northern harrier and the Vernal Pools/Seasonal Wetlands (seasonal wetlands), Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable habitat for this species. Northern harrier has potential to occur within the Study Area.

Song Sparrow "Modesto" Population

The song sparrow (*Melospiza melodia*) is considered one of the most polytypic songbirds in North America (Miller 1956 as cited in Arcese et al.2002)). The subspecies *Melospiza melodia heermanni* includes as synonyms M. *m. mailliardi* (the "Modesto song sparrow") and *M. m. cooperi* (Arcese et al. 2002). The "Modesto song sparrow" is not listed and protected pursuant to either the federal or California ESAs, but is considered a CDFW SSC. The subspecies M. m. heermanni can be found in central and southwestern California to northwestern Baja California (Arcese et al. 2002). Song sparrows in this group may have slight morphological differences but they are genetically indistinguishable from each other. The "Modesto song sparrow" occurs in the Central Valley from Colusa County south to Stanislaus County, and east of the Suisun Marshes (Grinnell and Miller 1944). Nesting habitat includes riparian thickets and freshwater marsh communities, with nesting occurring from April through June.

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2019a). The Stream/Creeks (drainage ditches) within the Study Area may provide suitable habitat for this species. Song sparrow "Modesto" population has potential to occur within the Study Area.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species pursuant to the California ESA. This species nests in North America (Canada, western United States, and Mexico) and typically winters

from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2010). In California, the nesting season for Swainson's hawk ranges from mid-March to late August. Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel, ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* species). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are several documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for Swainson's hawk and trees, Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable nesting and foraging habitat for this species. Swainson's hawk has potential to occur within the Study Area.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is listed as threatened pursuant to the California ESA. In addition, it is currently considered a USFWS BCC and a CDFW SSC. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Meese et al. 2014). Tricolored blackbirds nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. TRBL nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation (Meese et al. 2014). They feed mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Meese et al. 2014). The nesting season is generally from March through August.

There are several documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). SSHCP-Modeled Species Habitat is present within the Study Area for tricolored blackbird and the Valley Grassland, Cropland, and ruderal vegetation in Low-Density Development present within the Study Area provide suitable foraging habitat for this species. Tricolored blackbird has potential to occur within the Study Area.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the federal or California ESAs; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 1995). In northern California, white-tailed kite

nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 1995).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for white-tailed kite and the trees, Valley Grassland, Cropland, and ruderal vegetation within the Low-Density Development present in the Study Area provide suitable nesting and foraging habitat for this species. White-tailed kite has potential to occur within the Study Area.

4.5.6 Mammals

Two SSHCP-Covered Species mammals were determined to have potential to occur within the Study Area based on SSHCP-Modeled Species Habitat. No additional mammals were identified as having potential to occur within the Study Area based on the literature review and site assessment (Table 2). Brief descriptions of these species are presented in the sections below.

Western Red Bat

The western red bat (*Lasiurus blossevillii*) is not listed pursuant to either the federal or California ESAs; however, this species is considered an SSC by CDFW. The western red bat is easily distinguished from other western bat species by its distinctive red coloration. This species is broadly distributed, its range extending from southern British Columbia in Canada through Argentina and Chile in South America, and including much of the western United States. This solitary species day roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They may be associated with intact riparian habitat, especially with willows, cottonwoods, and sycamores. This species may occasionally utilize caves for roosting as well. They feed on a variety of insects, and generally begin to forage one to two hours after sunset. This species is considered highly migratory; however, the timing of migration and the summer ranges of males and females may be different. Winter behavior of this species is poorly understood (WBWG 2018).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for western red bat and the trees, Valley Grassland, Cropland, and ruderal vegetation in the Low-Density Development present within the Study Area provide suitable habitat for this species. Western red bat has potential to occur within the Study Area.

American Badger

The American badger (*Taxidea taxus*) is not listed pursuant to either the federal or California ESAs; however, this species is considered an SSC by CDFW. American badger historically ranged throughout much of the state, except in humid coastal forests. American badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the Central Valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties

(Williams 1986). American badgers occupy a variety of habitats, including grasslands and savannas. The principal requirements seem to be significant food supply, friable soils, and relatively open, uncultivated ground (Williams 1986).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2019a). However, SSHCP-Modeled Species Habitat is present within the Study Area for American badger and the Valley Grassland and Cropland within the Study Area provides suitable habitat for this species. American badger has potential to occur within the Study Area.

4.6 Sensitive Natural Communities

Five sensitive natural communities were identified as having the potential to occur within the Study Area based on the literature review (CDFW 2019a). These included Coastal and Valley Freshwater Marsh, Great Valley Mixed Riparian Forest, Great Valley Valley Oak Riparian Forest, Northern Hardpan Vernal Pool, and Valley Oak Woodland. However, based on site visits, there is no marsh habitat present within the Study Area and the small stand of trees along the southeastern boundary of the Study Area (see Section 4.8); is not large enough to be considered Great Valley Mixed Riparian Forest, Great Valley Oak Riparian Forest, or Valley Oak Woodland. Though SSHCP aquatic vernal pool land cover type is mapped onsite, the Study Area has been converted to Cropland and the Study Area soils do not support a Northern Hardpan Vernal Pool community.

4.7 Wildlife Movement/Corridors and Nursery Sites

The Study Area is located in an undeveloped area within the sphere of influence of the City of Galt, roughly 0.25 mile east of U.S. Highway 99. Additionally, the Study Area is surrounded by development to the west and north, and a development is currently being constructed immediately south of the Study Area. The drainage ditches present onsite lack significant riparian vegetation and likely only serves as marginal movement corridors for wildlife. The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2019b).

No nursery sites have been documented within the Study Area (CDFW 2019) and none were observed during the site reconnaissance.

4.8 Local Plan and Ordinances (Heritage Trees)

A formal arborist survey has not been conducted for the Study Area. Ornamental trees are present around the rural residences in the central and northeastern portion of the Study Area. Additionally, a small stand of trees is present along the southeastern boundary with scattered patches of Himalayan blackberry (*Rubus armeniacus*). Trees present in this area include Valley oak (*Quercus lobata*), interior live oak, Callery pear (*Pyrus calleryana*), and Northern California black walnut (*Juglans hindsii*). Based on the site visit, some of the trees appear to be heritage trees as defined by the City of Galt Heritage Tree Ordinance.

5.0 IMPACT ANALYSIS

The impact analysis provided below is organized to specifically address the CEQA Appendix G Environmental Checklist Form for biological resources.

5.1 Special-Status Species and SSHCP-Covered Species

The Project would require mass grading of the ±119.58-acre site. As such, the Project would have the potential to have a substantial adverse effect, either directly or through habitat modifications, on special-status species identified by CDFW and/or USFWS and SSHCP-Covered Species.

Of the 34 species identified in Table 2, 23 species are SSHCP-Covered Species and are considered adequately conserved through the provisions of the SSHCP because Project impacts would be mitigated through the SSHCP In-Lieu Fee Program and the Project proponent will comply with SSHCP Avoidance and Minimization Measures (AMMs) as described in Section 6.0.

The remaining 11 species having potential or low potential to occur onsite that are not SSHCP-Covered Species include nine plants and two birds. These species use similar habitats to the SSHCP-Covered species. The potential impacts to these species are also likely to be mitigated by SSHCP AMMs for covered plants and birds, and by the restoration, enhancement and preservation of habitats accomplished by the SSHCP In-Lieu Fee Program as described in Measures BIO-1 and BIO-4 in Section 6.0. Additionally, Measures BIO-5 through BIO-17 in Section 6.0 are recommended to be implemented in order to minimize effects on these 11 special-status species.

5.2 Sensitive Natural Communities

There are no Sensitive Natural Communities as defined by CDFW within the Study Area (CDFW 2019a).

5.3 Federally Protected Wetlands and Waters of the U.S.

The Project is anticipated to impact (fill) up to roughly 1.641 acres of potential Waters of the U.S. The Project applicant is anticipated to apply for CWA Section 404 and 401 authorization under the SSHCP ARP, and to mitigate for Project impacts using the SSHCP In-Lieu Fee Program. Mitigation Measures BIO-1, BIO-2, and BIO-4 are recommended to address impacts to wetlands and other Waters of the U.S.

5.4 Wildlife Movement/Corridors and Nursery Sites

The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2019b). While the Project will impact the existing stream/channels (drainage ditches) occurring onsite, these features likely do not provide high quality wildlife movement corridors for wildlife due to the lack of significant riparian vegetation present and/or perennial water. The Study Area does not include a known nursery site (CDFW 2019a) or critical mule deer fawning site (CDFW 2019b) and no nursery sites were identified during the field reconnaissance. The Project is anticipated to have minimal impact on wildlife movement corridors and no impact on nursery sites.

5.5 Local Policies and Ordinances (Heritage Trees)

An arborist survey has not been conducted for the Study Area; however, oak trees that may be protected by § 18.52.060 of the Galt Municipal Code (i.e., heritage oak trees) were observed onsite during the November 2018 site visit. The trees onsite may provide nesting habitat for birds.

Per § 18.52.060, a tree permit is required for removal of heritage trees (see Section 2.2.9 for definition). For discretionary projects, tree removal enforcement is under the jurisdiction of the Community Development Director and may be implemented through the conditions of approval for the Project. Recommended Mitigation Measure BIO-18 addresses impacts to heritage trees.

5.6 Habitat Conservation Plans

As stated previously, the Project is located in the SSHCP Plan Area and is expected to be consistent with the provisions of the SSHCP and ARP permitting programs and comply with the AMMs as discussed in the recommended Mitigation Measures in Section 6.0 (full text of AMMs is provided as Attachment F). The Project impacts are anticipated to be mitigated through the SSHCP In-Lieu Fee Program as discussed in BIO-1 and BIO-4.

6.0 RECOMMENDATIONS

The following Mitigation Measures are recommended prior to Project implementation in order to mitigate impacts on biological resources. Many of the Mitigation Measures presented in this Section reference SSHCP AMMs, the full text of which can be found in Attachment F.

BIO-1. Obtain Clean Water Act Section 404 Permit and Section 401 Permit and Implement All Permit Conditions:

Before the approval of grading and improvement plans and before any groundbreaking activity associated with the project, the Project applicants shall ensure that authorization pursuant to CWA Section 404 from the USACE and CWA Section 401 from the Central Valley RWQCB is obtained (i.e., through permitting under the SSHCP ARP). The construction contractor shall adhere to all conditions outlined in the SSHCP ARP. The Project applicants shall ensure that the Project replaces, restores, or enhances on a "no net loss" basis (in accordance with the USACE and the Central Valley RWQCB) the acreage of all wetlands and other waters of the United States/waters of the State that would be removed, lost, and/or degraded due to project implementation, either through the SSHCP In-Lieu Fee Program or by other methods agreeable to the USACE, the Central Valley RWQCB, and the City, as appropriate, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

BIO-2. Obtain CDFW 1602 Streambed Alteration Agreement and Implement All Permit Conditions:

Before the approval of grading and improvement plans and before any groundbreaking activity associated with the project, the Project applicants shall ensure that authorization pursuant to Section

1600-1616 of the California Fish and Game Code (CDFW 1602 Streambed Alteration Agreement) has been obtained (i.e., through direct application to CDFW for a Section 1602 SAA or through participation in the SSHCP). The construction contractor shall adhere to all conditions outlined in the Section 1602 SAA or SSHCP.

BIO-3. Best Management Practices:

The Project applicants shall comply with SSHCP AMMs BMP-1 through BMP-11.

BIO-4. Mitigate for Impacts to Aquatic Features and Habitat:

Before the approval of grading and improvement plans and before any groundbreaking activity associated with the Project, the Project applicants shall ensure that mitigation for impacts to aquatic features and other habitat for special-status species has been implemented through the SSHCP In-Lieu Fee Program or by other methods agreeable to the USACE, RWQCB, USFWS, CDFW, and the City, as appropriate, depending on agency jurisdiction.

BIO-5. Special-Status Plant Surveys and Protection:

The Project applicants shall comply with SSHCP AMMs PLANT-1 (Rare Plant Surveys). Though there are nine plant species that are not considered SSHCP-Covered Species (see Table 2), special-status plant surveys conducted per PLANT-1 shall identify whether these nine species are present onsite.

If SSHCP-covered plants are determined to be present, PLANT-2 (Rare Plant Protection) will be implemented. If non SSHCP-covered plant species are determined to be present, a mitigation plan shall be prepared for review and approval by the City of Galt. Depending on the listing status of the plant, appropriate mitigation will be determined and may include avoidance, transplantation, or inoculation (if species are present in wetland habitats). Avoided areas containing special-status plants shall be fenced with orange construction fencing.

BIO-6. Invertebrates

There are no species-specific SSHCP AMMs for vernal pool fairy shrimp, mid-valley fairy shrimp, VELB, Ricksecker's water scavenger beetle, and vernal pool tadpole shrimp. However, these are Covered Species, and the Project applicants shall comply with SSHCP requirements, In-Lieu Fee Program, and relevant general AMMs.

BIO-7. California Tiger Salamander

The Project applicants shall comply with SSHCP AMMs CTS-1 through CTS-7.

BIO-8. Western Spadefoot:

The Project applicants shall comply with SSHCP AMMs WS-1 through WS-6.

BIO-9. Western Pond Turtle

The Project applicants shall comply with SSHCP AMMs WPT-1 through WPT-9.

BIO-10. Tricolored Blackbird:

The Project applicants shall comply with SSHCP AMMs TCB-1 and TCB-2, and based on the results of surveys conducted under those measures, comply with TB-3 through TCB-5.

BIO-11. Swainson's Hawk:

The Project applicants shall comply with SSHCP AMMs SWHA-1 and SWHA-2, and based on the results of surveys conducted under those measures, comply with SWHA-3 and SWHA-4.

BIO-12. Greater Sandhill Crane

The Project applicants shall comply with SSHCP AMMs GSC-1 and GSC-2, and based on the results of surveys conducted under those measures, comply with GSC-3 through GSC-5.

BIO-13. Western Burrowing Owl:

The Project applicants shall comply with SSHCP AMMs WBO-1 and WBO-2, and based on the results of surveys conducted under those measures, comply with WBO-3 through WBO-7.

BIO-14. Other Raptors:

The Project applicants shall comply with SSHCP AMMs RAPTOR-1 and RAPTOR-2, and based on the results of surveys conducted under those measures, comply with RAPTOR-3 and RAPTOR-4.

BIO-15. Other Nesting Birds:

A qualified biologist shall conduct a preconstruction nesting bird survey (can be conducted concurrently with BIO-14) of all areas associated with construction activities, and a 100-foot buffer around these areas, within 14 days prior to commencement of construction if construction occurs during the nesting season (February 1 through August 31). These surveys can be conducted concurrently with surveys required under BIO-14. If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with the CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

BIO-16. Bat Species:

The Project applicants shall comply with SSHCP AMM BAT-1, and based on the results of the survey conducted, comply with BAT-2 through BAT-5.

BIO-17. American Badger

There are no species-specific SSHCP AMMs for American badger. However, this is a Covered Species, and the Project applicants shall comply with SSHCP requirements, In-Lieu Fee Program, and relevant AMMs.

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LIST OF ATTACHMENTS

ATTACHMENT A

Project Description

PROJECT DESCRIPTION:

Location:
The 119.6-acre Simmerhorn Ranch Property (APN 150-0082-019) is located in Sacramento County and abuts Simmerhorn Road to the north, Marengo Road to the east, and Boessow Road to the south. It is located east of the City of Galt city limits.

Development Request:
The Simmerhorn Ranch property is located within the City of Galt Sphere of Influence and is included within the City's General Plan. The applicant Elliott Homes is proposing a "large lot" and a "small lot" Vesting Tentative Map, a Design Review and Planned Development Permit to accommodate cluster housing proposed on Unit 3, a Rezone to designations consistent with the City of Galt Zoning Code, and a General Plan Amendment to rearrange the land uses designated by the City's General Plan Land Use Diagram. This request will also require Annexation into the City of Galt. The City of Galt has directed that an additional 219 acres located north and west of the Simmerhorn Ranch property be considered for Annexation.

The City of Galt is currently in the process of developing an outreach effort to confirm which areas will be included in the East Galt Infill Annexation request, which is illustrated by the *Exhibit 1: Project Location with Proposed East Galt Infill Annexation Areas*. The 119-acre Simmerhorn Ranch property is contained within Area A, which totals 168.7 acres. Area A defines the minimum annexation area. The City of Galt wishes to also annex Area B which is approximately 66.5 acres and Area C which is approximately 102.8 acres. All three areas combined measure 338 acres. The City will also need to coordinate this annexation request with the Sacramento Local Agency Formation Commission (LAFCO).

Historic Use:
The 119-acre Simmerhorn Ranch Property has historically been utilized for small scale "truck" farming and cattle grazing, and was previously operated as a dairy farm. The property owner still resides in a home located on Simmerhorn Road just west of an existing home, and there is outparcel that is not a part of Simmerhorn Ranch located at the northeast corner of the 119-acre property. The dairy barns, sheds, and an old small single-story stucco caretaker home is located just east of the midpoint of Marengo Road. Two linear runoff storage ponds are located directly south of the existing barns/sheds. The existing home is proposed to be preserved on its own 2.0-acre (net) parcel. The barns, shed and old home located to the south and associated with the previous farming operations will be removed with the proposed development of the project. These properties are on well and septic, and these facilities will be abandoned and/or removed with the development of the site.

Topography & Drainage:
The site very flat, but generally drains from the east to the west and south as illustrated by *Exhibit 2: Topographic Base Map & Proposed 1-lot Parcel Map*. The high point of the site, at Elevation 60±, is located just east of the midpoint of Marengo Road. The northeast corner of the site is at Elevation 59±. The western most edge of the site is at Elevation 53±. This equates to an average slope of 0.2%. A drainage and/or irrigation ditch is located along the southwesterly property line and is utilized to convey storm water runoff south to a ditch located off-site on the north side of Boessow Road, which then turns

south and continues Dry Creek, which is located approximately 3,000 feet to the south. The City's drainage Master Plans propose to take storm drainage to Dry Creek via this ditch located south of Boessow Road.

The entire site and adjacent rights-of-way will be disturbed by grading operations to allow the construction of roadway and frontage improvements, and the proposed subdivision. The construction of in-tract streets and homes will be phased depending on market demand for the particular housing types. There are water quality/detention basins located within each of the residential units of the proposed subdivision. These will likely be graded to a depth of approximately 10 feet, and would fill during large storm events and slowly drain to the drainage ditch located directly west of the southwest corner of the site at Boessow Road. The proposed Water Quality/Detention Basins may increase in size and may shift slightly in location depending on the results of the Preliminary Drainage and Hydrology Study, which is anticipated to take 3 months to complete.

Vegetation & Wildlife:

Tree cover is minimal but there are a few ornamental and other trees around the existing homes, and there are a few scattered native trees adjacent to roadways around the perimeter of the site. Most of the property has been utilized for grazing land and truck farming and consists of mixed grassland. A Biological Assessment will be prepared to determine if there are any sensitive species located on-site. There does not appear to be any significant native oak trees on-site. It is assumed that few trees located on-site and all of the grassland will be disturbed and removed with the improvement of adjacent streets and the development of the site, with the exception of the trees around the existing home.

Proposed Project:

The Applicant Elliott Homes is proposing a Tentative Subdivision Map with 498 single-family homes comprised of three different lot sizes, with approximately a third of each type. These are configured as shown on *Exhibit 3: Conceptual Site Plan*. Having three product types will improve absorption, and the smaller lots sizes are consistent with the City of Galt General Plan Land Use Designations, which show areas for MDR-Medium Density Residential and MHDR-Medium High Density Residential. The underlying zoning designation for the School, Parks, and WQ Basins will match zone for the unit.

Table 1: Conceptual Site Plan Summary

Unit	*Zone*	*Lot Size*	*Lot Count*	*Acres (g)*	*DU/AC*	*Lot Mix %*
Unit 1A and 1B	LDR	65' x 115'	152	40.8	3.7	30.3%
Unit 2A and 2B	MDR	45' x 95/110'	169	29.9	5.6	33.1%
Unit 3	MHDR	I-court	177	19.7	8.4	34.6%
Parks				5.6		
Elem. School				8.0		
OS/WQ Basins				3.6		
Existing Home				2.4		
ROW				9.5		
TOTAL			**498**	**119.6**		

The applicant has also submitted a 1-lot Tentative Parcel Map to Sacramento County to create a 2.4 acre (gross) parcel for the existing home and a 17.6 acre "no-build" easement to the south on the existing 119.6 acre parcel. This is illustrated by *Exhibit 2 – Topographic Base Map and Proposed 1-lot Parcel Map*. This approach will allow the property owner to continue to utilize the existing home. The land use plan strategically places the 8.0-acre Elementary School site, and the 4.6-acre Park site to the south to

provide a buffer, as well as the 20 lots proposed by Unit 2B to the west of the existing home to allow a phased approach to development of the site.

As stated earlier, Tentative Subdivision Map and necessary entitlements will be submitted and processed through the City of Galt for the entire 119.6-acre property. The application to the City proposes a total of 498 lots, with 478 lots on the Elliott Homes portion of the property, and 20 lots shown within Unit 2B.

Infrastructure (Sewer, Water, & Drainage):

The existing homes within the 119.6 Simmerhorn Ranch parcel and also the rural residential area on the north side of Simmerhorn Road are on well and septic systems. Based on early discussions with the City of Galt engineering staff regarding the City's sewer master plans, Simmerhorn Ranch will connect to an future off-site sewer line is proposed to the northwest through Annexation Area B. The exact location of this off-site sewer line is currently in the process of being determined in coordination with the City of Galt public works staff.

The City of Galt water system will need to extend down Marengo Road and potentially connect to Carillion Boulevard via Simmerhorn Road, or potentially extend down to Boessow Road and east to C Street and the City of Galt. The exact location of the water service system is still being determined in coordination with City of Galt public works staff. This water system could allow existing homes on the north side of Simmerhorn Road the ability to connect to the City's water system if these properties area annexed to the City.

A series of water quality/detention basins are located to capture runoff from each unit, and small 0.5-acre Mini-Parks are located in Units 1A and Unit 3 to provide a gathering space for future residents. The proposed Water Quality/Detention Basins may increase in size and may shift slightly in location depending on the results of the Preliminary Drainage Study, which is anticipated to take 3 months to complete. If additional water quality and detention is needed, instead of increasing on-site basins there may be an option to have an off-site basin to the west and south. This scenario will be explored by the Drainage Study.

Overhead Power Lines:

There are overhead powerlines located on the south side of Simmerhorn Road, the east side of Marengo Road, and the south side of Boessow Road. It has not been determined if these power lines will need to be relocated within the proposed roadway widening and frontage improvements that will be required for the project.

Exhibit 1: Project Location within Proposed East Galt Infill Annexation Areas

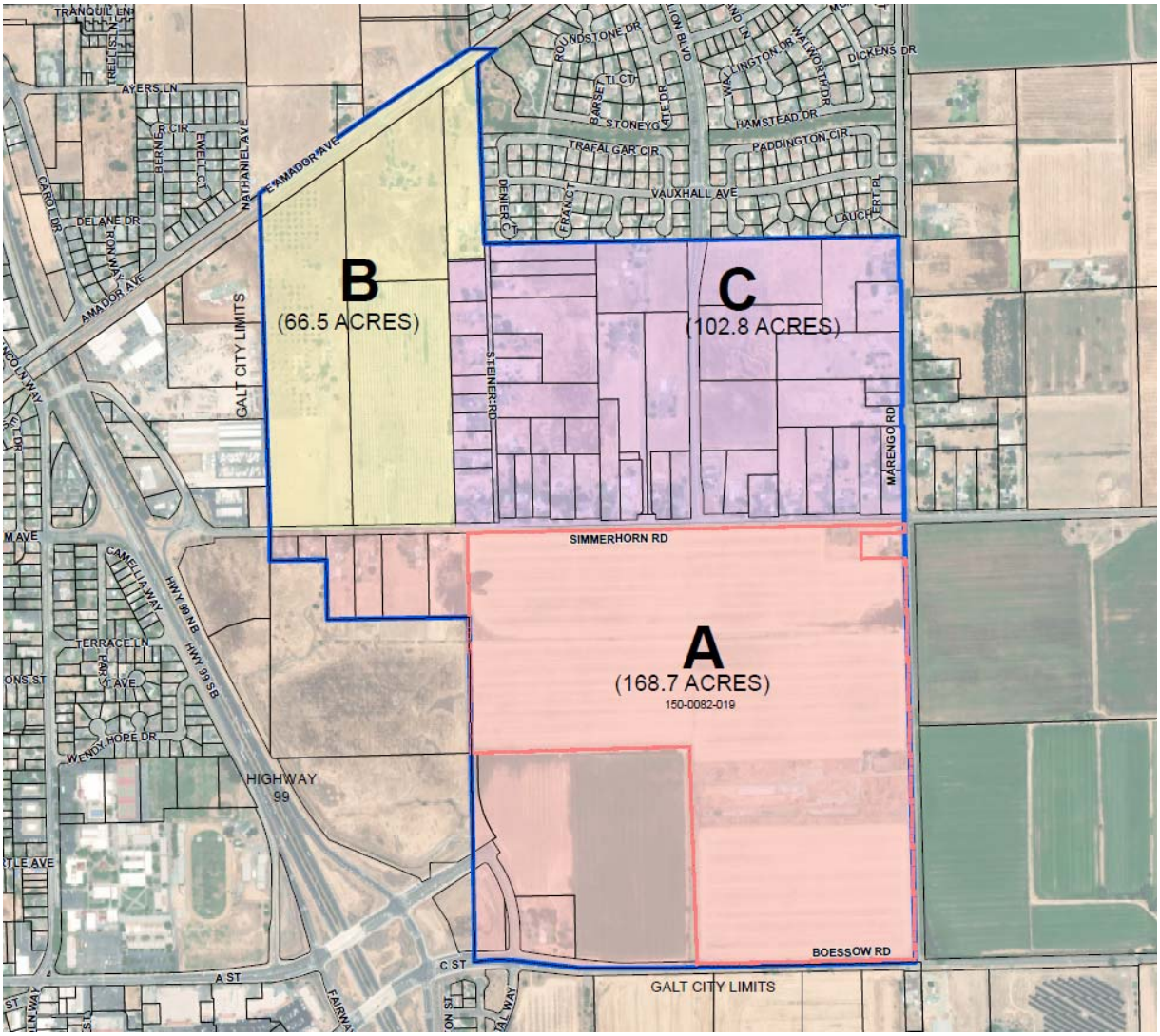


Exhibit 2: Topographic Base Map & Proposed 1-lot Parcel Map

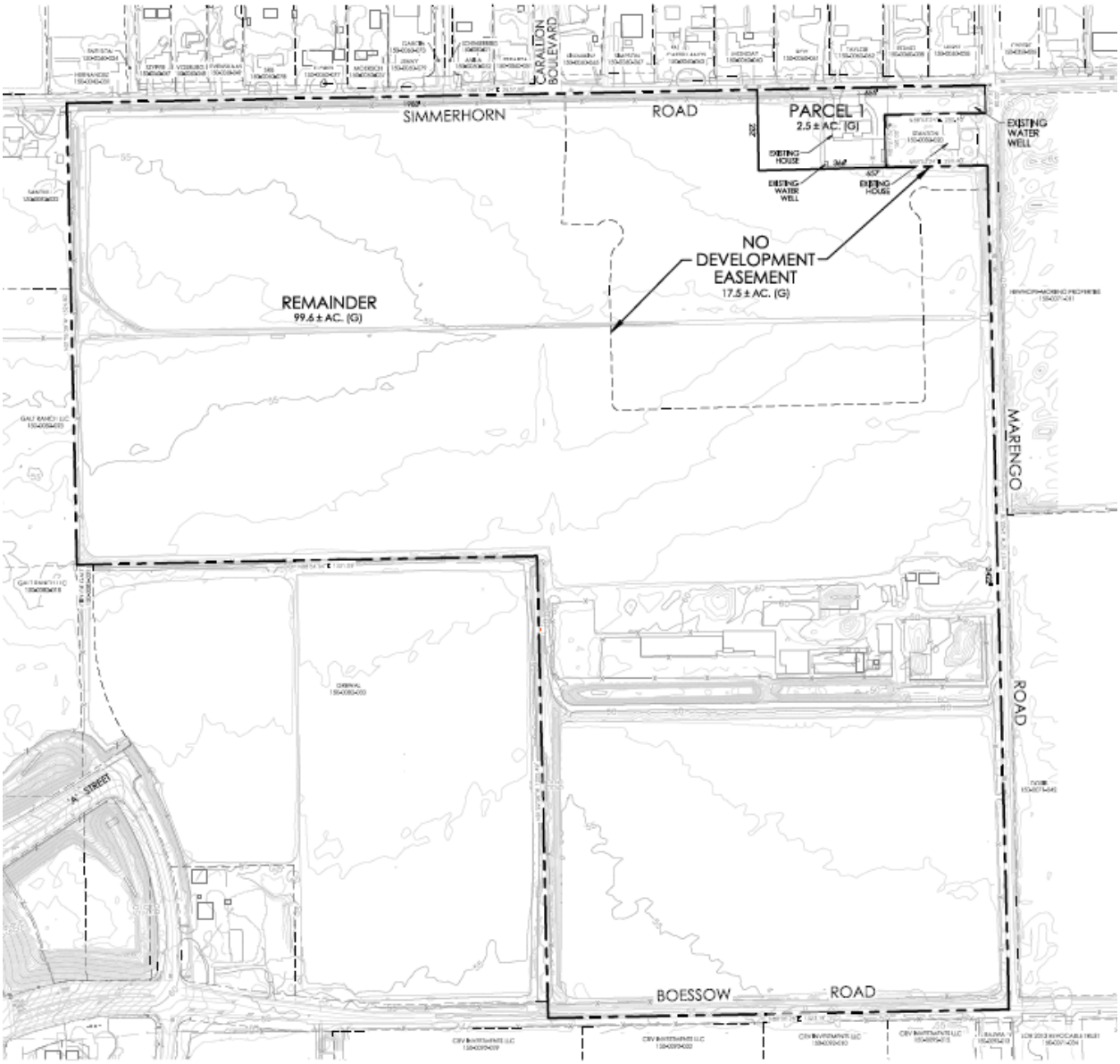
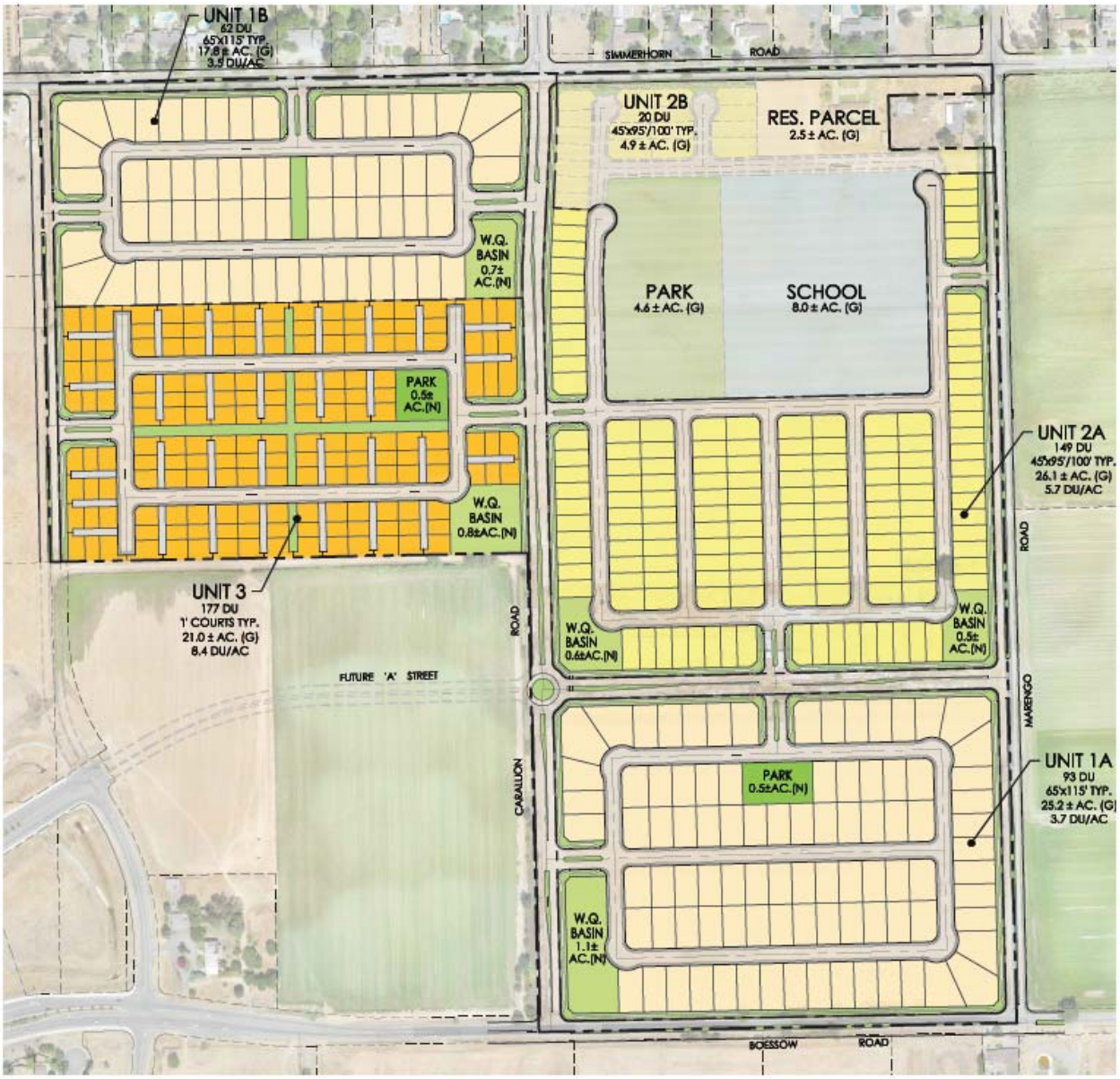


Exhibit 3: Conceptual Site Plan



ATTACHMENT B

Representative Site Photographs

Photo 1. Mowed agricultural field in southern portion of the Study Area. View south. Photo taken November 7, 2018.

Photo 2. Defunct dairy pond now functioning as a seasonal wetland in central portion of the Study Area. View west. Photo taken November 7, 2018.

Photo 3. Stand of trees along southern boundary. View east. Photo taken November 7, 2018.

Photo 4. Ruderal annual grassland surrounding old dairy structures. View northeast. Photo taken November 7, 2018.