

Delineation of Waters of the U.S.

Placer County Retirement Residence Project

Placer County, California

Prepared For:

Hawthorn Retirement Group

22 April 2016



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1.0 INTRODUCTION

On behalf of the Hawthorn Retirement Group, ECORP Consulting, Inc. (ECORP) conducted a delineation of Waters of the United States (U.S.) for a ±14-acre Placer County Retirement Residence Project (Project) located in Placer County, California. The site is located at the northwestern corner of the intersection of Sierra College Boulevard and Old Auburn Road (Figure 1. *Project Location and Vicinity*). The site corresponds to a portion of Section 17, Township 10 North, and Range 7 East (Mount Diablo Base Meridian) of the "Folsom, California" 7.5-minute quadrangle (U.S. Department of the Interior, Geologic Survey [USGS] 1981). The approximate center of the site is located at 38° 43' 23.12" North and -121° 13' 39.75" West within the Lower American Watershed (#18020111, USGS 1978).

This report describes potential Waters of the United States (U.S.), including wetlands, identified within the site 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 Preliminary Wetland Delineations (USACE 2001). The potential Waters of the U.S. boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the site and are subject to modification following the USACE verification process.

The purpose of this delineation of Waters of the U.S. is to provide enough information to USACE for a Preliminary Jurisdictional Determination (PJD).

2.0 REGULATORY SETTING

2.1 Waters of the United States

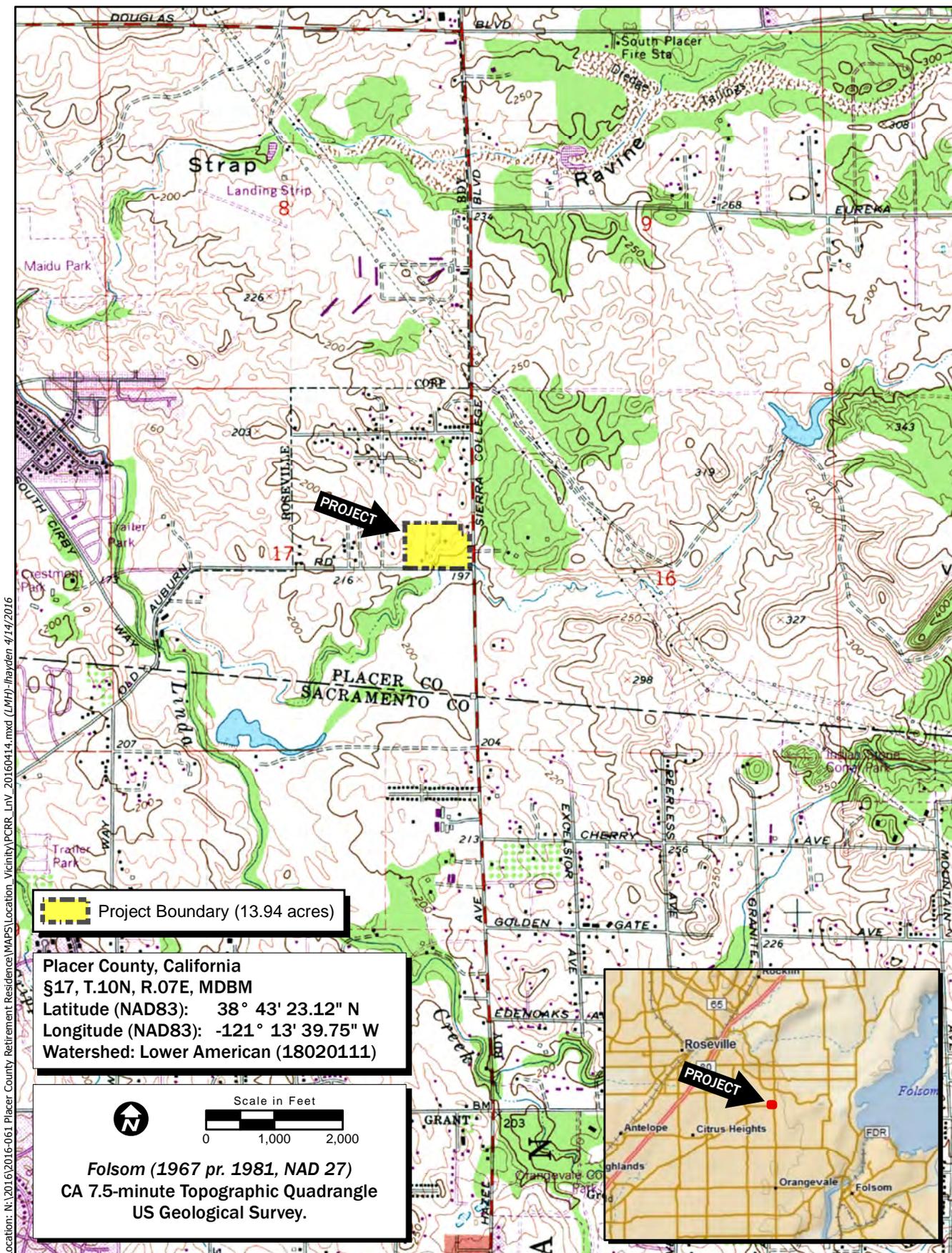
This report describes potential Waters of the U.S., including wetlands that may be regulated by the USACE under Section 404 of the CWA.

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 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, 25 August 1993]. Wetlands can be perennial or intermittent, and isolated or adjacent to other Waters.

2.1.2 Other Waters

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



Location: N:\2016\2016-061 Placer County Retirement Residence\Maps\Location_Vicinity\PCRR_LNV_20160414.mxd (LMH) /by:den 4/14/2016

Map Date: 4/14/2016
 Service Layer Credits: Copyright:© 2015 DeLorme



Figure 1. Project Location and Vicinity
 2016-061 Placer County Retirement Residence

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 Federal 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 that is 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 USC 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; this certification or waiver is issued by the Regional Water Quality Control Board.

2.3 Jurisdictional Assessment

Pursuant to the U.S. Environmental Protection Agency (USEPA) and USACE memorandum regarding CWA jurisdiction, issued following the United States Supreme Court’s decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (herein referred to as *Rapanos*), the agencies will assert jurisdiction over the following waters: “Traditional Navigable Waters” (TNW), all wetlands adjacent to TNW, nonnavigable tributaries of TNW that are “relatively permanent” Waters (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by USACE and USEPA to establish jurisdiction include nonnavigable tributaries that are not relatively permanent, wetlands adjacent to nonnavigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent nonnavigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a Water has a significant nexus with TNW. The significant nexus analysis will assess the flow characteristics and functions of the nonnavigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

3.0 METHODS

This wetland 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 2008a). The boundaries of potential Waters of the U.S. were delineated through aerial photograph interpretation and standard field methods (e.g., paired sample set analyses), and field data were recorded on Wetland Determination Data Forms - Arid West Region, provided as Attachment A. A color aerial photograph (1"=100' scale, NAIP 2012) was used to assist with mapping and ground-truthing, provided as Attachment B. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (U.S. Department of Agriculture, Natural Resources Conservation Service [NRCS] 2016) were used to aid in identifying hydric soils in the field. The Jepson Manual, Second Edition (Baldwin et al. 2012) was used for plant nomenclature and identification.

Field surveys were conducted on 1 April 2016 by ECORP Senior Biologist Keith Kwan. Mr. Kwan walked the entire ±14-acre project site to determine the location and extent of potential Waters of the U.S. Paired data point locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported a determination of wetland or nonwetland status. At each paired location, one point was located such that it was within the estimated wetland area and the other point was situated outside the limits of the estimated wetland area. The total area of the wetlands and other Waters within the site was recorded in the field using a post-processing capable global positioning system unit with submeter accuracy (Trimble GeoXT).

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 data 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 2008a).

Dominant plant species observed at each data 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. 2014). If the majority (greater 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.

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 nonwetlands
Facultative	FAC	Occur in wetlands and nonwetlands
Facultative Upland	FACU	Usually occur in nonwetlands, 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.

¹Source: Lichvar et al. 2014

In instances where indicators of hydric soil and wetland hydrology were present but the plant community failed the dominance test, the vegetation was reevaluated 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.

A soil pit was excavated to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each data 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).

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, watermarks (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 Project site is largely undeveloped except for a rural residence in the southwestern corner. The Project site is situated at an elevation of approximately 200 feet above mean sea level.

The majority of the Project site is composed of annual grassland currently used as a horse pasture, portions of which appear to be irrigated. A narrow riparian corridor is located along the eastern and southern boundaries along an unnamed tributary to Linda Creek, which is located less than one mile west of the Project site. Common nonnative weedy plants found in the grassland include field mustard (*Brassica rapa*), bur clover (*Medicago polymorpha*), filaree (*Erodium botrys*), ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), ryegrass (*Festuca perennis*), and annual bluegrass (*Poa annua*). There are a few scattered blue oaks (*Quercus douglasii*) and ornamental trees in the center of the Project site and near the rural residence.

The riparian corridor along the unnamed tributary to Linda Creek is made of an open canopy of Goodding's black willow (*Salix gooddingii*) and Valley oak (*Quercus lobata*), with a patchy scrub/shrub layer of Himalayan blackberry (*Rubus armeniacus*), sapling oaks and willows, and poison oak (*Toxicodendron diversilobum*). The understory is made up of native and nonnative plants including winter vetch (*Vicia villosa*), ripgut brome, ryegrass, cut-leaved geranium (*Geranium dissectum*), and creeping wild-rye (*Elymus triticoides*). The bed of the creek is vegetated in low-gradient reaches and unvegetated in areas with higher flows or gravel/cobble substrate.

Prior to the 1 April 2016 field survey, the season-to-date precipitation recorded at the Lincoln CAL FIRE reporting station (approximately 12 miles north of the Project) was 18.24 inches with the last reported precipitation event on 20 and 21 March 2016, when 0.32 inch of rain was recorded (CDEC 2016). During this field survey, many non-native weedy grasses and forbs in upland areas were flowering.

4.1.1 California Aquatic Resource Inventory

According to the California Aquatic Resource Inventory (CARI) (San Francisco Estuary Institute 2015), there is one feature mapped within the Project site (Figure 2. *California Aquatic Resource Inventory Features*). These correspond to the unnamed tributary, perennial creek, mapped along the southern portion of the Project site.

4.1.2 Soils

According to the Web Soil Survey (NRCS 2016), two soil units, or types, have been mapped within the Project site (Figure 3. *Natural Resources Conservation Service Soil Types*). These are (146) Fiddyment loam, 1 to 8 percent slopes and (194) Xerofluvents, frequently flooded. Both of these soil units are considered hydric. Fiddyment loam contains Alamo components in depressions and Xerofluvents contain xerofluent and unnamed components in drainageways (NRCS 2014).

4.2 Potential Waters of the U.S.

A total of 0.590 acre of potential Waters of the U.S. have been mapped within the survey area (Table 2). The wetland determination data forms are included in Attachment A, aerial photos in Attachment B, and a list of plant species observed on-site is included in Attachment C. A discussion of the wetlands and other Waters is presented below, and wetland delineation maps are presented in Figure 4. *Wetland Delineation* and Attachment D. The USACE Operations and Maintenance Business Information Link Regulatory Module (ORM) aquatic resources table of potential Waters of the U.S. is included in Attachment E.

Type	Acreage ¹
Wetlands	
Seasonal Wetland	0.038
Seasonal Wetland Swale	0.078
Other Waters	
Perennial Creek	0.474
Total	0.590

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

4.2.1 Wetlands

Seasonal Wetlands

The seasonal wetland mapped on-site is a topographic basin at the low end of a topographic swale. It is seasonally inundated through the wet season and dries throughout the summer and fall. Wetland plants observed in the seasonal wetland included creeping spikerush (*Eleocharis macrostachya*), hyssop loosestrife (*Lythrum hyssopifolium*), and water-winged starwort (*Callitriche*

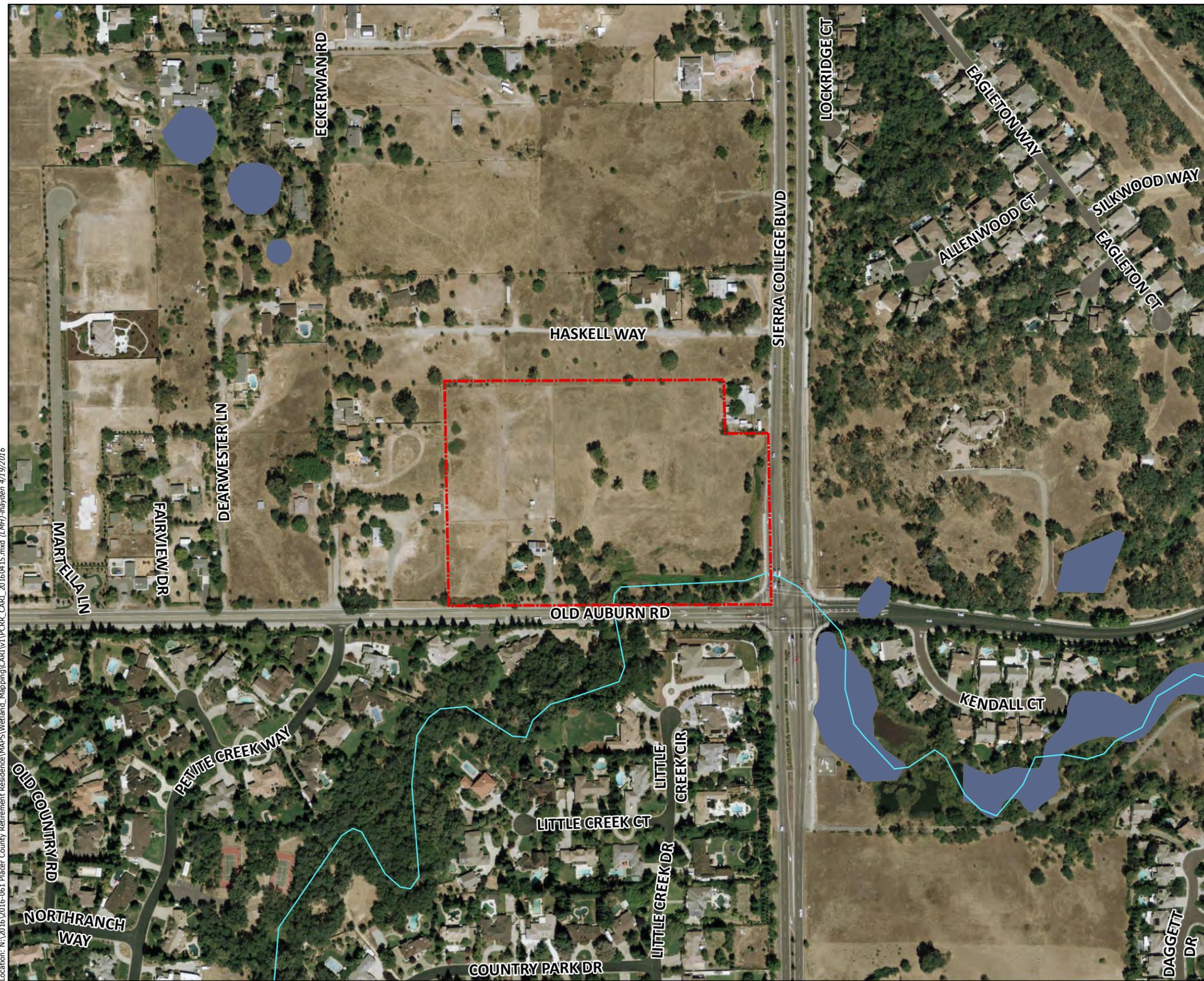
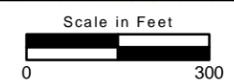
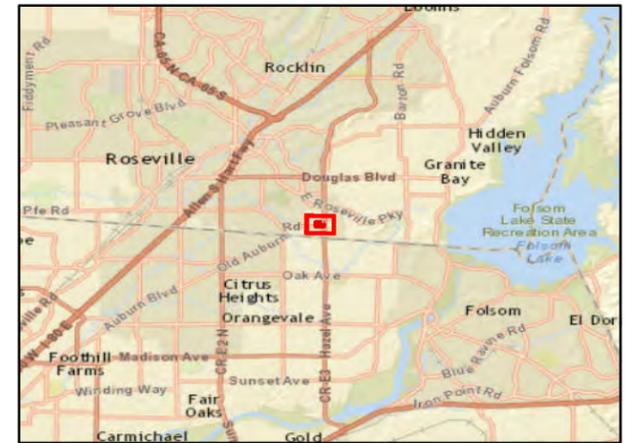


Figure 2. California Aquatic Resources Inventory

- Map Features**
- Project Boundary (13.94 acres)
 - CARI Wetland Type**
 - Depressional
 - CARI Stream Type**
 - Fluvial Natural

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Location: N:\2016\2016-061 Placer County Retirement Residence\MAPS\Wetland_Mapping\CARI\1\PCRR_CARI_20160415.mxd (LWP)-Hayden 4/19/2016

Location: N:\2016\2016-061 Placer County Retirement Residence\Maps\Soils_and_Geology\Soils\PCRR_Soils_Letter_Portrait_mxd (LMP)-Hayden 5/4/2016



Map Features

-  Project Boundary (13.94 acres)

Soil Type

-  146 - Fiddyment loam, 1 to 8 percent slopes
-  194 - Xerofluvents, frequently flooded

Natural Resources Conservation Service (NRCS)
Soil Survey Geographic (SSURGO) Database for
California, 2016


Scale in Feet

0 200

Map Date: 5/4/2016
Photo Source: NAIP 2014

Natural Resources Conservation Service Soil Types

Figure 4.
Potential Waters of the U.S.

MAP FEATURES

-  Project Boundary (13.94 acres)
 -  Sample Point
 -  Topographic Contour Line
 -  Creek Reach
- Waters Type**
-  Perennial Creek/Stream (0.474 ac.)
 -  Seasonal Wetland (0.038 ac.)
 -  Seasonal Wetland Swale (0.078 ac.)

¹ Boundary Source: Kimley Horn 2016
² Subject to U.S. Army Corps of Engineers verification
 This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.

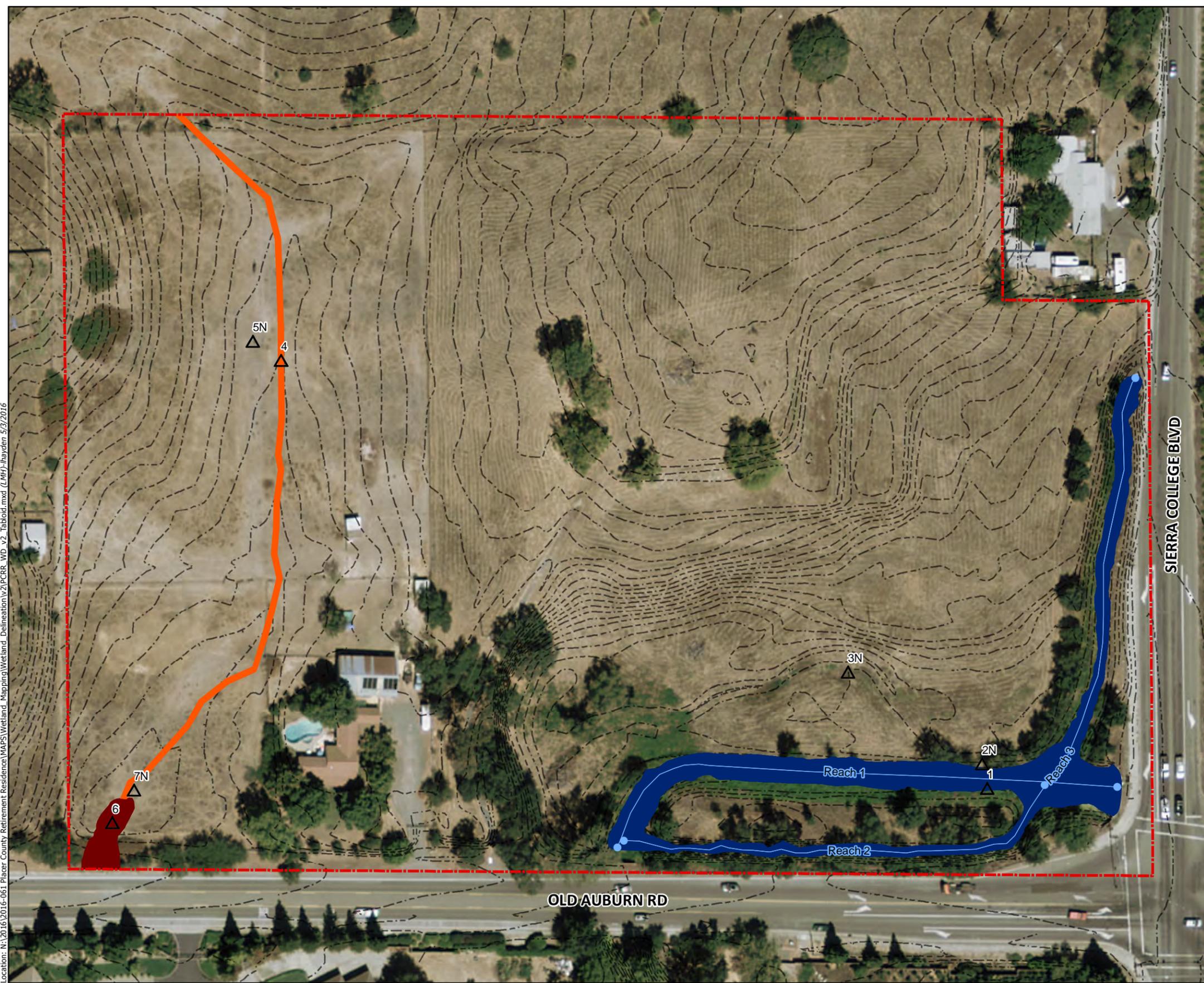
SAMPLE POINTS

WATERS OF THE U.S.

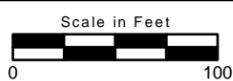
THREE CRITERIA SAMPLE POINT	GPS COORDINATES LAT/LONG
 1	38.722/-121.227
 4	38.723/-121.229
 6	38.722/-121.229

UPLAND

THREE CRITERIA SAMPLE POINT	GPS COORDINATES LAT/LONG
 2N	38.722/-121.226
 3N	38.723/-121.227
 5N	38.722/-121.229
 7N	38.723/-121.229



Location: N:\2016\2016-061 Placer County Retirement Residence\MAPS\Wetland_Mapping\Wetland_Delineation\2\PCRR_WD_v2_Tableid.mxd (L:\MH\byrden 5/3/2016



marginata). The vegetation was considered hydrophytic according to the dominance test. The soil matrix color was 10YR4/2 with redox concentrations (7.5YR4/6). The soil was considered hydric according to the depleted matrix and redox depression indicators. Wetland hydrology was observed in the form of a biotic crust.

Seasonal Wetland Swale

The seasonal wetland swale is a topographic swale that supports seasonal flows during the wet season, dries through summer and fall, and does have an OHWM. Plants species found within the seasonal wetland swale on-site included Carter's buttercup (*Ranunculus bonariensis*), annual bluegrass, hyssop loosestrife, and ryegrass. The vegetation was considered hydrophytic according to the prevalence index. The soil matrix color at a depth of 3 to 14 inches below the surface was 10YR3/2 with redox features (10YR4/6) and was considered hydric according to the redox dark surface indicator. Wetland hydrology was observed in the form of a biotic crust and drainage patterns.

4.2.2 Other Waters

Perennial Creek

The unnamed tributary to Linda Creek mapped on-site is supported by flows from two separate culverts. One culvert is located at the corner of Sierra College Boulevard and Old Auburn Road, where flows originate from a marshy open space area and urban development on the southeast corner of the intersection. The second culvert is located on Sierra College Boulevard, approximately 400 feet north of the intersection with Old Auburn Road. Flows through this culvert originate from an oak woodland to the east of Sierra College Boulevard and possible supplemented by urban runoff. This system appears to support perennial flows as a result of urban runoff.

5.0 JURISDICTIONAL ASSESSMENT

The perennial creek on-site appears to flow for at least three months in a year, so it would be considered a relatively permanent nonnavigable tributary to Linda Creek, which is ultimately tributary to the Sacramento River, a TNW. As such, the perennial creek on-site is considered jurisdictional.

The seasonal wetland swale and seasonal wetland mapped on-site may not be directly hydrologically connected to the perennial creek or Linda Creek, but likely indirectly via roadside ditches or overland flows. These would be considered adjacent, not abutting, wetlands to a relatively permanent Water and would require a significant nexus analysis to establish jurisdiction.

According to Regulatory Guidance Letter (08-02), an Applicant "may elect to use a preliminary Jurisdictional Determination (PJD) to voluntarily waive or set aside questions regarding Clean Water Act/Rivers and Harbors Act jurisdiction over a particular site, usually in the interest of allowing the landowner or other "affected party" to move ahead expeditiously to obtain a USACE permit authorization where the party determines that is in his or he best interest to do so." (USACE 2008b). A significant nexus evaluation is not necessary to obtain a PJD.

6.0 CONCLUSION

A total of 0.590 acre of potential Waters of the U.S. has been mapped within the Project site. These acreages represent a calculated estimation of the jurisdictional area within the survey area and are subject to modification following the USACE verification process. Fill within jurisdictional features would require permitting pursuant to Sections 404 and 401 of the CWA.

7.0 REFERENCES

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Wetland Determination Data Forms - Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placer County Retirement Res. City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hazthorn Retirement Group State: CA Sampling Point: 1
 Investigator(s): K. Kwan Section, Township, Range: Sec 17, T. 10N, R. 07E
 Landform (hillslope, terrace, etc.): creel bed Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C Lat: 38.722 Long: -121.227 Datum: NAD83
 Soil Map Unit Name: 194 Xerofluvents, frequently flooded NWI classification: _____
 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ <i>other waters</i>
Remarks: <u>perennial creel delineated at OHWM</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>10x10'</u>)				
1. <u>Typha latifolia</u>	<u>5</u>	<u>x</u>	<u>OBL</u>	
2. <u>Cyperus eragrostis</u>	<u>2</u>	<u>x</u>	<u>FACW</u>	
3. <u>Panicum punctata</u>	<u>1</u>		<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>8</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>	% Cover of Biotic Crust <u>0</u>			

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 ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
	no soil pt taken in gravel/wobble creviced							

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

Indicators for Problematic Hydric Soils³:

³Indicators 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)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No _____	Depth (inches): _____	
Saturation Present? Yes _____ No _____	Depth (inches): _____	
(includes capillary fringe)		

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placer County Retirement Nos. City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hanthon Retirement Group State: CA Sampling Point: 2
 Investigator(s): W. Kwan Section, Township, Range: sec 17, T10N, R7E
 Landform (hillslope, terrace, etc.): creek bank Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): C Lat: 38.722 Long: -121.227 Datum: NAD83
 Soil Map Unit Name: 164 Xerofluvents, frequently flooded NWI classification: _____

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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>upland comparison to sample pt. 1</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10x10'</u>)				
1. <u>Quercus wislizenii</u>	<u>5</u>	<u>x</u>	<u>N/L</u>	
2. <u>Quercus lobata</u>	<u>1</u>	_____	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>6</u> = Total Cover				
Herb Stratum (Plot size: <u>10' x 10'</u>)				
1. <u>Bromus diandrus</u>	<u>50</u>	<u>x</u>	<u>N/L</u>	
2. <u>Geranium dissectum</u>	<u>15</u>	<u>x</u>	<u>N/L</u>	
3. <u>Convolvulus arvensis</u>	<u>5</u>	_____	<u>N/L</u>	
4. <u>Bromus hordeaceus</u>	<u>5</u>	_____	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>30</u>	% Cover of Biotic Crust <u>0</u>			

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 ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No

Remarks: _____

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placer County Retirement Res. City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hawthorn Retirement Group State: CA Sampling Point: 3
 Investigator(s): K. Khan Section, Township, Range: Sec 17, T. 01N, R. 7E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.723 Long: -121.227 Datum: NAD 83
 Soil Map Unit Name: 146-Fiddlyment Loam, 1-8% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No _____
Remarks: <u>topographic swale; suspect area on aerial photo</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>10' x 10'</u>)				
1. <u>Bromus diandrus</u>	<u>50</u>	<u>X</u>	<u>N/L</u>	
2. <u>Convolvulus arvensis</u>	<u>10</u>		<u>N/L</u>	
3. <u>Rumex crispus</u>	<u>5</u>		<u>FAC</u>	
4. <u>Geamin dissectum</u>	<u>10</u>		<u>N/L</u>	
5. <u>Bromus hordeaceus</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
6. <u>Festuca myuros</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
7. <u>Erodium botrys</u>	<u>5</u>			
8. _____	_____	_____	_____	
<u>120</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>	% Cover of Biotic Crust <u>0</u>			

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 ≤3.0¹
 ___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placer County Retirement Res City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hawthorn Retirement Group State: CA Sampling Point: 4
 Investigator(s): K. Kwan Section, Township, Range: sec 17, T10N, R. 7E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): C Lat: 38.723 Long: -121.229 Datum: NAD83
 Soil Map Unit Name: 146 - Fiddlyment loam, 1-8% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <u>seasonal wetland swale ; historically irrigated</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>55</u> x 1 = <u>55</u> FACW species <u>2</u> x 2 = <u>4</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>26</u> x 4 = <u>104</u> UPL species _____ x 5 = _____ Column Totals: <u>93</u> (A) <u>193</u> (B) Prevalence Index = B/A = <u>2.07</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <u>X</u> 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.
1. <u>Ranunculus bonariensis</u>	<u>40</u>	<u>X</u>	<u>OBL</u>	
2. <u>Poa annua</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	
3. <u>T. folium repens</u>	<u>5</u>		<u>FACU</u>	
4. <u>Lythrum hyssopifolia</u>	<u>15</u>		<u>OBL</u>	
5. <u>Hypochaeris radicata</u>	<u>1</u>		<u>FACU</u>	
6. <u>Juncus biformis</u>	<u>2</u>		<u>FACW</u>	
7. <u>Taraxacum officinale</u>	<u>10</u>		<u>FAC</u>	
8. _____	_____	_____	_____	
<u>93</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust <u>10</u>				

Remarks: _____

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placer Co. Retirement Res. City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hunter Retirement Group State: CA Sampling Point: 5
 Investigator(s): K. Kwan Section, Township, Range: sec 17, T10N, R7E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): C Lat: 39.722 Long: -121.229 Datum: NAD83
 Soil Map Unit Name: 146 Fiddymant loam, 1-8% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <u>upland comparison to Sample P1 +</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10' x 10'</u>)				
1. <u>Poa annua</u>	<u>50</u>	<u>X</u>	<u>FALV</u>	
2. <u>Plantago lanceolata</u>	<u>5</u>		<u>FAL</u>	
3. <u>Tritium dubium</u>	<u>25</u>	<u>></u>	<u>VPL</u>	
4. <u>Festuca perennis</u>	<u>10</u>		<u>FAL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>		% Cover of Biotic Crust <u>0</u>		

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 ≤3.0¹

___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR ³ /2	100					sandy loam	
2-12	10YR ³ /3	95	10YR ⁴ /6	10	RM	M	sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

Indicators for Problematic Hydric Soils³:

³Indicators 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: hydric soil likely result of irrigation

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> 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: Placer County Retirement Res. City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hawthorn Retirement Group State: CA Sampling Point: 6
 Investigator(s): K. Kwan Section, Township, Range: Sec 17. T10N, R 7E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.722 Long: -121.229 Datum: NAD83
 Soil Map Unit Name: 14ta Fiddlyment loam 1 to 8 slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <u>seasonal wetland</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				= Total Cover
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				= Total Cover
Herb Stratum (Plot size: _____)				
1. <u>Eleocharis macrostachya</u>	<u>60</u>	<u>X</u>	<u>OBL</u>	
2. <u>Lythrum hyssopifolium</u>	<u>25</u>	<u>X</u>	<u>OBL</u>	
3. <u>Callitriche marginata</u>	<u>5</u>		<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				<u>90</u> = Total Cover
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				= Total Cover
% Bare Ground in Herb Stratum <u>10</u>	% Cover of Biotic Crust <u>10</u>			
Remarks:				

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 (AB)

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 ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placer County Retirement Res City/County: Placer Sampling Date: 4/1/16
 Applicant/Owner: Hamborn Retirement Group State: CA Sampling Point: 7
 Investigator(s): K. Kwan Section, Township, Range: sec 17 T10N. R 7E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C Lat: 38.723 Long: -121.229 Datum: NAD83
 Soil Map Unit Name: 146 Fiddlywood loam, 1-8% slopes NWI classification: _____

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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>upland comparison to sample pt. 6</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	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.
1. <u>Poa annua</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Cerastium glomeratum</u>	<u>5</u>		<u>UPL</u>	
3. <u>Leontodon saxatilis</u>	<u>10</u>		<u>FACU</u>	
4. <u>Erodium cicutarium</u>	<u>5</u>		<u>FACU</u>	
5. <u>Festuca perennis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAL</u>	
6. <u>Plantago lanceolata</u>	<u>5</u>		<u>FAL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>55</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust <u>0</u>				
Remarks: _____				

ATTACHMENT B

Survey Area Aerial

ATTACHMENT C

Plant Species Observed On-Site

Attachment C
Placer County Retirement Residence - Delineation of Waters of the U.S.
Plants Observed On-Site

Scientific Name	Common Name	Indicator Status
<i>Alisma triviale</i>	Broad-leaf water plantain	OBL
<i>Brassica rapa</i> *	Field mustard	FACU
<i>Bromus diandrus</i> *	Ripgut brome	N/L
<i>Bromus hordeaceus</i> *	Soft brome	FACU
<i>Callitriche marginata</i>	Winged water-starwort	OBL
<i>Cerastium glomeratum</i> *	Mouse-ear chickweed	UPL
<i>Cichorium intybus</i> *	Chicory	FACU
<i>Cirsium arvense</i> *	Canada thistle	FACU
<i>Cirsium vulgare</i> *	Bull thistle	FACU
<i>Convolvulus arvensis</i> *	Morning glory	N/L
<i>Cyperus eragrostis</i>	Tall flatsedge	FACW
<i>Eleocharis macrostachya</i>	Creeping spikerush	OBL
<i>Elymus triticoides</i>	Creeping wild-rye	FAC
<i>Erodium botrys</i> *	Filaree	FACU
<i>Erodium cicutarium</i> *	Filaree	N/L
<i>Eschscholzia californica</i>	California poppy	N/L
<i>Festuca myuros</i> *	Rat-tail vulpia	FACU
<i>Festuca perennis</i> *	Ryegrass	FAC
<i>Geranium dissectum</i> *	Cut-leaved geranium	N/L
<i>Hirschfeldia incana</i> *	Shortpod mustard	N/L
<i>Hypochaeris radicata</i> *	Perennial cat's-ear	FACU
<i>Juncus balticus</i> ssp. <i>ater</i>	Baltic rush	FACW
<i>Juncus bufonius</i>	Toad rush	FACW
<i>Juncus effusus</i>	Soft rush	FACW
<i>Lactuca serriola</i> *	Prickly lettuce	FACU
<i>Leontodon saxatalis</i> *	Hairy hawkbit	FACU
<i>Lythrum hyssopifolia</i> *	Hyssop loosestrife	OBL
<i>Medicago polymorpha</i> *	Bur clover	FACU
<i>Persicaria punctata</i>	Dotted smartweed	OBL
<i>Plantago lanceolata</i> *	English plantain	FAC
<i>Poa annua</i> *	Annual bluegrass	FACU
<i>Quercus douglasii</i>	Blue oak	N/L
<i>Quercus lobata</i>	Valley oak	FACU
<i>Quercus wislizeni</i>	Interior live oak	N/L
<i>Ranunculus bonariensis</i> var. <i>trisepalus</i>	Carter's buttercup	OBL
<i>Raphanus sativus</i> *	Purple wild radish	N/L
<i>Rubus armeniacus</i> *	Himalayan blackberry	FACU
<i>Rumex crispus</i> *	Curly dock	FAC
<i>Salix gooddingii</i>	Goodding's black willow	FACW
<i>Sonchus asper</i> *	Prickly sowthistle	FAC
<i>Toxicodendron diversilobum</i>	Poison oak	N/L
<i>Trifolium dubium</i> *	Shamrock clover	UPL
<i>Trifolium repens</i> *	White clover	FACU
<i>Typha latifolia</i>	Broad-leaf cattail	OBL
<i>Verbena bonariensis</i> *	South American vervain	FACW
<i>Vicia villosa</i> *	Winter vetch	N/L

* denotes non-native species

Indicator Status Codes:

OBL-Obligate Wetland, almost always occur in wetlands

FACW-Facultative Wetland, usually occur in wetlands, but may occur in non-wetlands

FAC-Facultative, occur in wetlands and non-wetlands

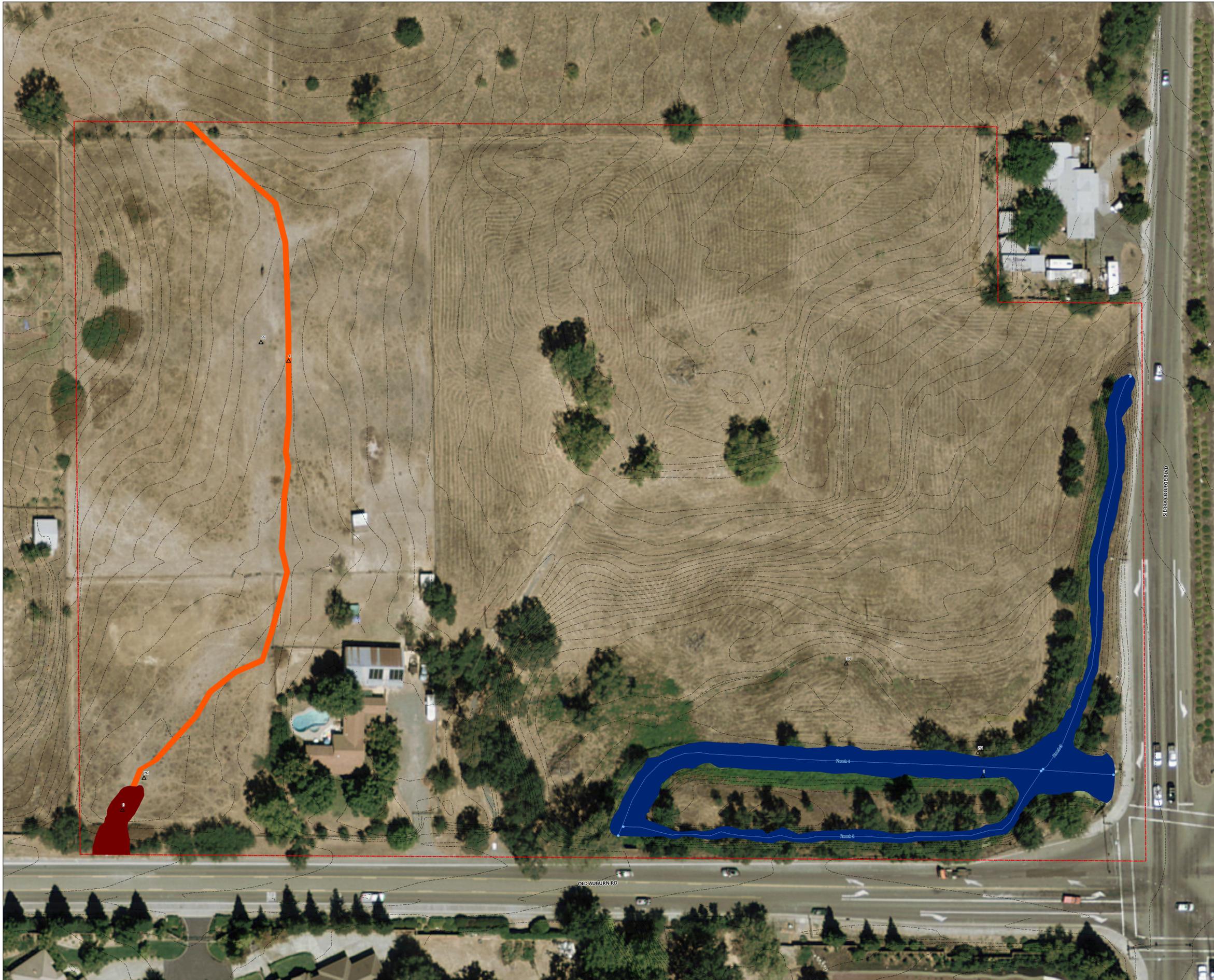
FACU-Facultative Upland, usually occur in non-wetlands, but may occur in wetlands

UPL-Upland, almost never occur in wetlands

N/L-Not Listed, Assumed to be UPL

ATTACHMENT D

Wetland Delineation



WETLANDS³

SEASONAL WETLAND			
ID	EXISTING SQ. FT.	EXISTING AC.	
SW-1	1637.348	0.038	

SEASONAL WETLAND SWALE			
ID	EXISTING SQ. FT.	EXISTING AC.	
SWS-1	3403.966	0.078	

OTHER WATERS³

PERENNIAL CREEK/STREAM				
ID	EXISTING SQ. FT.	EXISTING AC.	EXISTING LINEAR FT.	
C-1	20634.795	0.474	Reach 1	485.160
			Reach 2	407.348
			Reach 3	372.333

WATERS OF THE U.S. UPLAND

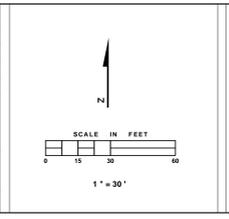
THREE CRITERIA SAMPLE POINT	GPS COORDINATES LAT/LONG	THREE CRITERIA SAMPLE POINT	GPS COORDINATES LAT/LONG
△ 1	38.722/-121.227	△ 2N	38.722/-121.226
△ 4	38.723/-121.229	△ 3N	38.723/-121.227
△ 6	38.722/-121.229	△ 5N	38.722/-121.229
		△ 7N	38.723/-121.229

NOTES

1. Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, wetland boundaries have not been legally surveyed and may be subject to minor adjustments if exact locations are required.

2. Boundary Source: Kimley-Horn

3. 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.



WATERS OF THE U.S.¹

—	Perennial Creek/Stream (0.474 ac.)
—	Seasonal Wetland (0.038 ac.)
—	Seasonal Wetland Swale (0.078 ac.)

OTHER MAP FEATURES

	Project Boundary ²
	Three Criteria Sample Point
	Creek Reach
	Topographic Contour Line

NATURAL RESOURCES CONSERVATION SERVICE SOIL TYPES

	148 - Flakym loam, 1 to 8 percent slopes
	194 - Xerofluents, frequently flooded

Source: NRCS SSURGO Soils



PLACER COUNTY RETIREMENT RESIDENCE

Potential Waters of the U.S.

Location: N 2016-061 Placer County Retirement Residence MAP 15 Wetland_Maps/Retired_Deliverables/Placer_Retirement_WD_v2 ANB E_rev.mxd
 Production Date: 5/3/2016 Plot Date: 5/3/2016 Project Number: 2016-061
 Coordinate System: NAD 1983 StatePlane California II FIPS 4002 Feet Scale: 1" = 30' GIS Specialist: LMH

ECORP Consulting, Inc.
 ENVIRONMENTAL CONSULTANTS

Inland Empire 215 North 5th Street Redlands, CA 92374 Ph: (909) 301-0906	Northern California 2225 Horton Drive Rocklin, CA 95677 Ph: (916) 782-9500	San Diego Region 2945 Horton California Rd. Suite A206 San Diego, CA 92123 Ph: (619) 579-4942	Orange County 2805 Park Center Building B, Ste 103 Santa Ana, CA 92701 Ph: (714) 848-0030
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ATTACHMENT E

USACE ORM Aquatic Resources Table

**Attachment E.
ORM Upload Sheet
Aquatic Resources**

Waters_Name	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
SW-1	PEM	DEPRESS	Area	0.038	ACRE	DELINEATE	38.722301	-121.229205	
SWS-1	PEM	SLOPE	Area	0.078	ACRE	DELINEATE	38.72321	-121.228672	
C-1.1	R2EM	RIVERINE	Linear	482	FOOT	DELINEATE	38.722406	-121.226963	
C-1.2	R2EM	RIVERINE	Linear	406	FOOT	DELINEATE	38.722878	-121.226169	
C-1.3	R2EM	RIVERINE	Linear	382	FOOT	DELINEATE	38.72222	-121.226949	

ATTACHMENT F

Wetland Delineation Shape File (to be included with USACE submittal only)

