

APPROVED JURISDICTIONAL DELINEATION

**VULCAN – SACRAMENTO AGGREGATES
CARLI EXPANSION SITE
SACRAMENTO COUNTY, CALIFORNIA**



LSA

May 2019

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VULCAN – SACRAMENTO AGGREGATES CARLI EXPANSION SITE SACRAMENTO COUNTY, CALIFORNIA

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May 2019

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1.0 INTRODUCTION

This report, prepared by LSA on behalf of Calmat Co. dba Vulcan Materials Company – Western Division, presents the results of a delineation of potential waters of the U.S. for a review area of the Vulcan-Sacramento Aggregates Carli Property. Potential regulated waters in the review area include areas meeting the United States Army Corps of Engineers (USACE) criteria for wetlands and/or other waters of the U.S. subject to regulation under Section 404 of the Clean Water Act (CWA). Included herein are a description of the review area, an explanation of the methods used during the delineation, and a discussion of the results.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulation under Section 404 of the CWA, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the USACE.

1.1 GENERAL DESCRIPTION

The review area totals 154.82 acres (ac) and is located in Sacramento County, approximately 9.7 miles (mi) east of the city of Sacramento, on the northeast corner of Eagles Nest Road and Florin Road. Topography is flat with some shallow undulation; the elevation is approximately 115 feet (ft) above mean sea level (Figures 1 and 2).

The Vulcan – Sacramento Aggregates mining operation will be expanding to a 160.98-ac site located southwest and adjacent to Vulcan’s current mining operation (referred to as the Carli Property). The review area, as defined above, is consistent with the Carli Property with the exception of the 6.16-ac segment of the Florin Road Right-of-Way (ROW). The Carli Property is located in the southeast quarter of Section 36 of Township 8 North, Range 6 East and the southwest quarter of Section 31 of Township 8 North, Range 7 East, on the Elk Grove and Carmichael USGS quadrangle maps.

Aggregate mining and processing operations are currently permitted on 394.32 ac under Sacramento County Use Permit (01-ZGB-UPB-0107). Existing operations include an aggregate processing plant. An EIR (Sacramento Aggregates–East Vineyard Community Plan Amendment, Rezone and Use Permit, Control No. 94-CZB-UPB-0715, State Clearinghouse No. 95052078) was approved for the original project in 1997, and a Supplemental EIR (Triangle Rock Products, Inc. Zoning Agreement and Use Permit Amendments, State Clearinghouse No. 1995050278) was approved for revisions in the original area in February 2003.

The existing processing plant is immediately east of the current review area; the areas north and east of the current review area have been mined over the last 20 years (Figure 3). In addition, in November 2008 the County approved an expansion to the south of Florin Road (the Florin Road South Expansion) just southeast of the current review area for which an EIR was prepared.

1.2 CARLI PROPERTY DESCRIPTION

The proposed Carli Property includes 160.98 acres of private and public land. The Carli Property’s southern boundary shares a boundary with the southern boundary of the Florin Road ROW, the

western boundary is Eagles Nest Road, and the northern and eastern edges bound the existing 338.04-acre Current Active Mining Area.

1.2.1 Non-Disturbance Areas

Non-Disturbance Areas in the Carli Property, totaling 19.76 acres, include a Wetland Avoidance Area (10.69 acres) located in the southeast corner of the Carli Property adjacent to Florin Road; County ROW (6.16 acres) on Florin Road along the southern boundary; and a perimeter area of Undisturbed Setbacks (2.91 acres) along the shoulders of Eagles Nest Road and Florin Road.

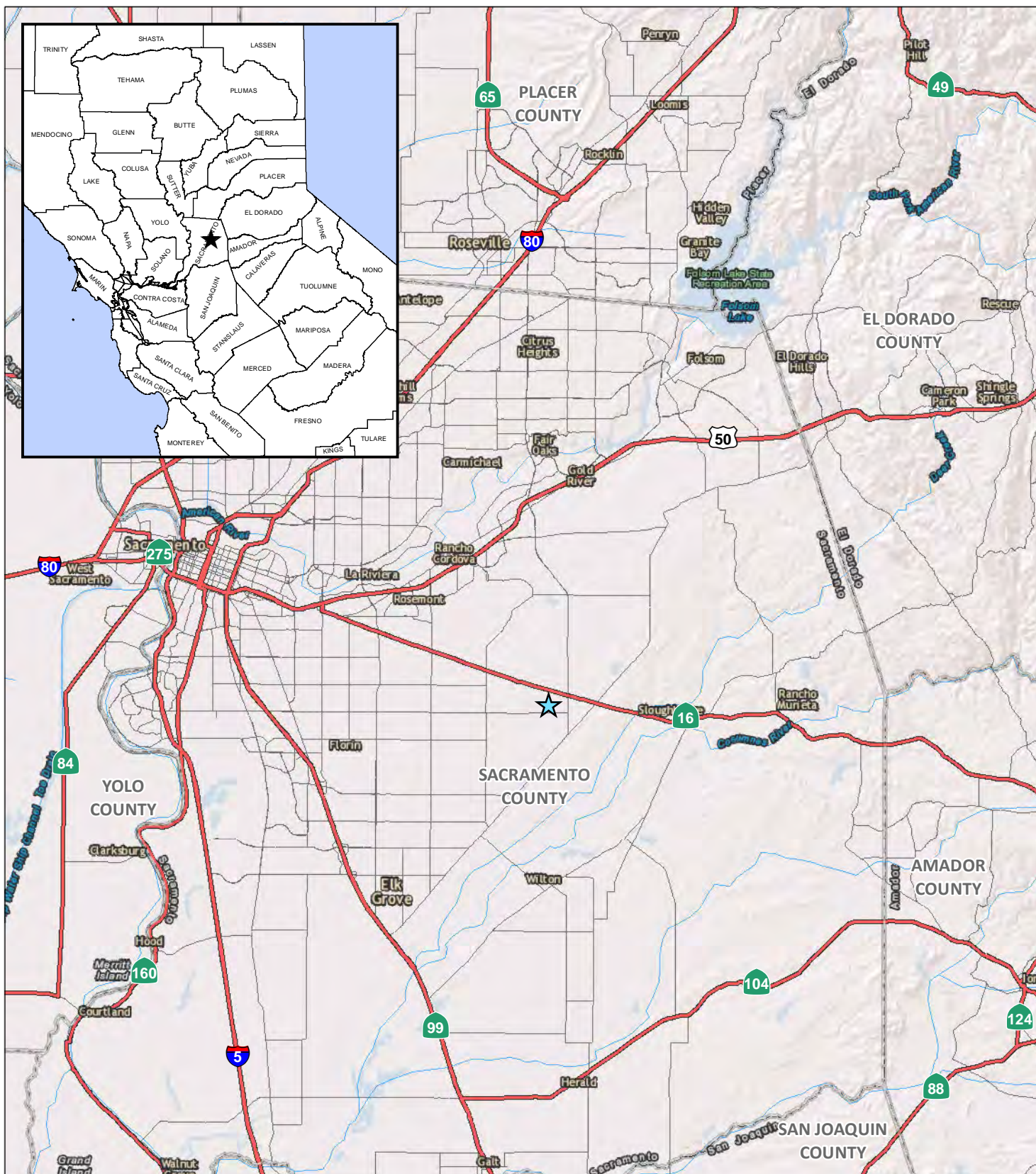
1.2.2 Proposed Carli Mining Area

The remainder of the Carli Property contains the proposed 141.22-acre Carli Mining Area. The Carli Mining Area contains two distinct areas that will be implemented in phases: Phase T-1 is 74.58 acres and Phase T-2 is 66.64 acres.

1.3 MINE PLAN

The Sacramento Aggregates sand and gravel mining operation consists of Phases I – X and Expansion Phases E-1, E-2 and E-3 (Florin Road South Expansion). The approved end use for the existing phases is reclamation back to grazing land and in some areas of Expansion Phase E, the end use will also include seasonal wetlands.

The Carli Property will add Phase T to the approved operations and will be implemented in two mining phases: Phases T-1 (74.58 acres) and T-2 (66.64 acres). The site will be mined starting in the northern portion of the site, extending south down and around the existing composting facility, then to the east, and finally back up towards the northeast to excavate the area currently occupied by the composting operation. The Carli Property will be reclaimed back to grazing land consistent with the other approved mining phases.

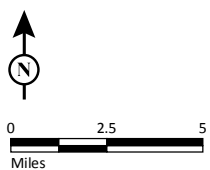


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LEGEND

★ Review Area

FIGURE 1

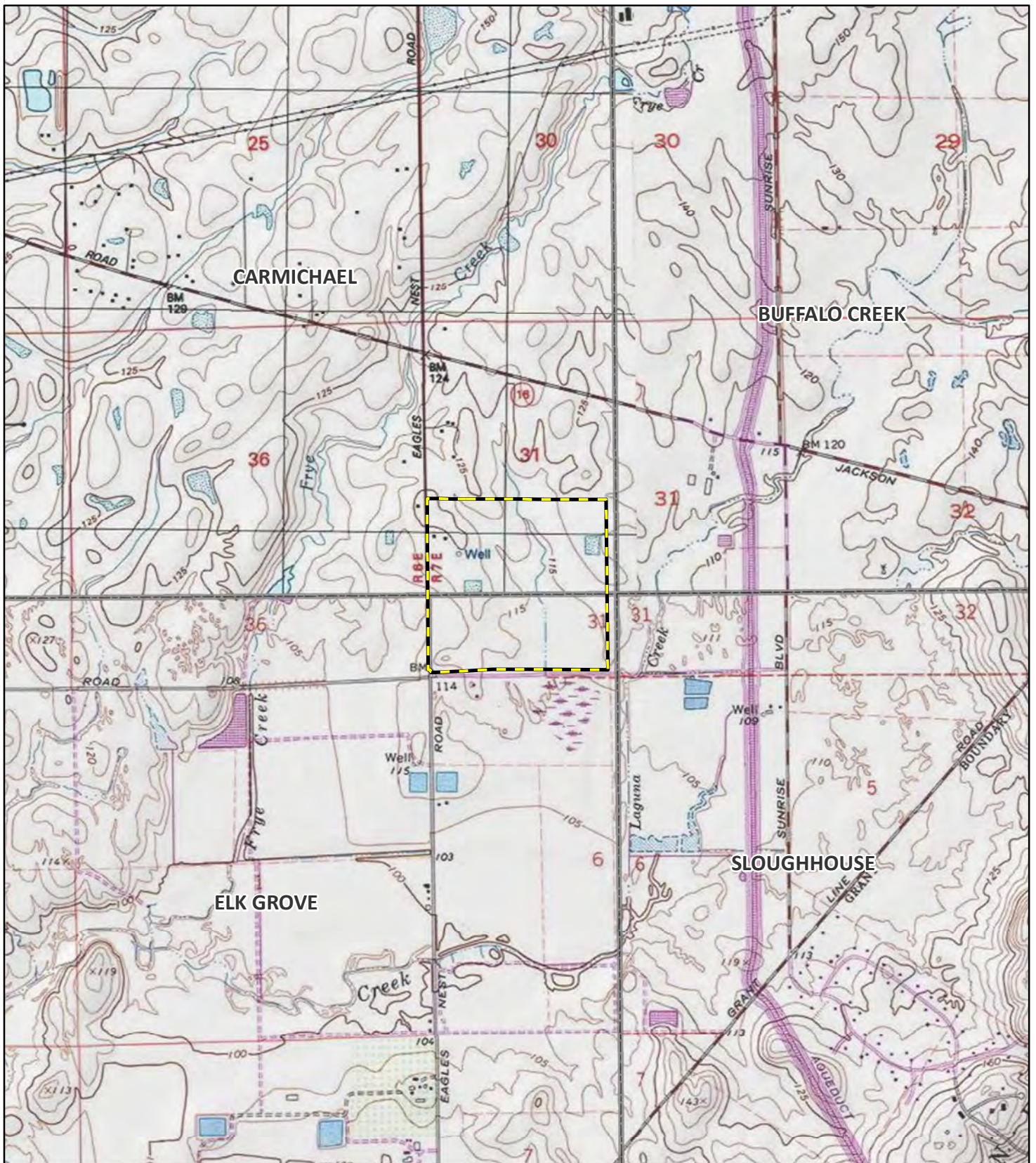


SOURCE: ESRI Imagery (4/2008)

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*Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601
Regional Location*

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- Review Area - (154.82 ac)
- USGS 7.5' Quad Boundaries



0 1000 2000
FEET

FIGURE 2

*Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601*

Review Area Vicinity on Topographic Base

SOURCE: USGS 7.5-minute topographic quadrangles Carmichael (1997); Elk Grove (1980); Buffalo Creek (1980); Sloughhouse (1993)

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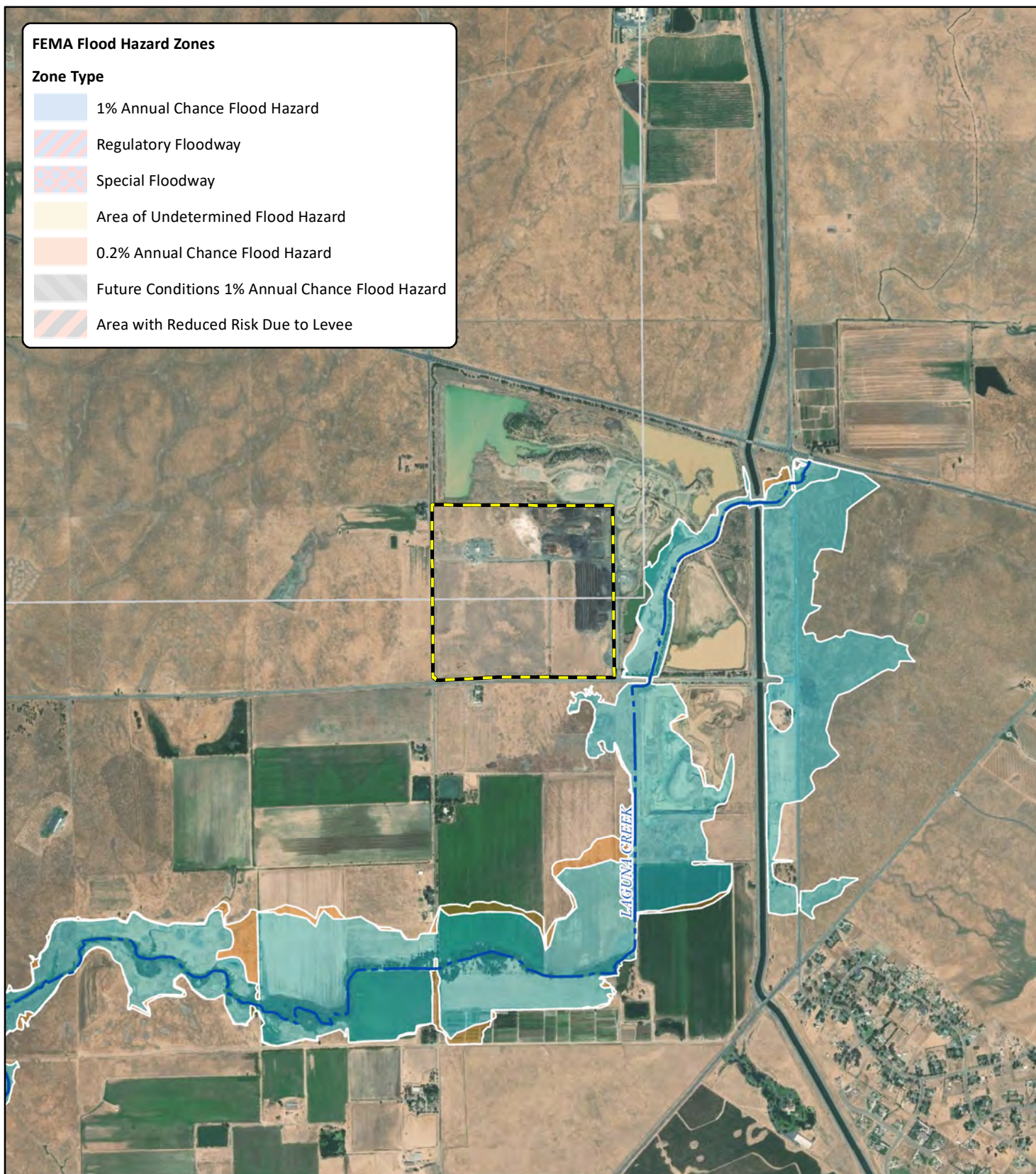


FIGURE 3

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*Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601*

**Review Area Vicinity on Aerial Base
and FEMA Flood Zones**

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1.3.1 Description of Mining

Overburden from the Carli Property will be removed with existing equipment used at other Sacramento Aggregate mining areas (e.g., a hydraulic excavator and front-loaders). Aggregate will be mined from the Carli Property using existing equipment, including a hydraulic excavator and front-loaders. Excavated aggregate will be transported to an extendable pit conveyor by loaders or existing haul trucks. Other existing mobile equipment will include bulldozer, motor-grader, water truck, and service truck. No processing will occur on the Carli Property.

1.3.2 Overburden and Waste Material Placement Sites

There is an approximately 2- to 3-foot thick layer of topsoil present in the Carli Property. Topsoil will be removed as a separate layer from each phase by using existing front-loaders or hydraulic excavator. Topsoil is transported by haul trucks, spread at previously excavated areas for use as the final cover for reclamation, or stored separately for such use in later reclamation.

An estimated 6.3 million cubic yards of overburden will be removed during the mining at the Carli Property (Phase T) by using existing hydraulic excavator and will be transported by haul trucks, spread at previously excavated areas for use as fill for reclamation or stored separately for such use in later reclamation.

1.3.3 Non-Disturbance Areas

The proposed excavation setbacks (2.91 acres total) would be the same as for the existing permitted operations (i.e., 30 feet from edge of pavement). For the Carli Property, that includes 30 feet from the Florin Road right-of-way and 30 feet from the Eagles Nest Road right-of-way). The setbacks would be landscaped to match the existing landscaping on the northeast and southeast sides of Florin Road and create a visual barrier between the roads and the mining activities. The landscaping would include the same native and/or landscape varieties of plants within a 15 feet wide planting area. The proposed mine plan is included in Appendix A.

The 6.16-acre segment of Florin Road ROW included in the Carli Property stretches from Eagles Nest Road eastward for approximately 2,640 feet (0.5 mile). No project elements are proposed within the Florin Road ROW. This area has not been included in the review area for purposes of this study.

Additionally, a 10.69-acre area in the southeast corner of the Carli Property has been designated for avoidance as a Wetland Avoidance Area. The seasonal wetlands present in this area will be preserved.

1.4 RECLAMATION PLAN

The mined area will be reclaimed to rolling grazing lands. Overburden and rock will be removed to elevations ranging between approximately 50 and 70 feet (approximate depths of 50 to 70 feet below current average site elevation of 120 feet), with side slopes of 1H:1V. This will be a temporary slope that will be partially filled during mine reclamation. Mined slopes meet criteria at 1H:1V for the final pit depth and 1.75H:1V backfilled with engineered fill for the reclaimed pit depth.

2.0 ENVIRONMENTAL SETTING

The review area is located in the Central Valley of California. Topography in the region varies from lowlands of the valley floor to the rolling terrain of the foothills. The predominant habitats in the region are grassland and oak woodland/savannah interspersed with various wetland and riparian habitats. Primary land uses in the vicinity are agricultural and industrial with smaller areas of concentrated residential housing.

2.1 CLIMATE

The climate in the review area is Mediterranean with cool, wet winters and hot, dry summers. The average total annual precipitation is approximately 18.15 inches (Western Regional Climate Center, 2017), most of which falls between November and April. There is normally less than 0.5 inch of rain between June and September. The average winter temperature is 48.3 degrees Fahrenheit (°F) and the average winter low temperature is 40.9°F. The average summer temperature is 73.9°F and the average summer high temperature is 89.4°F.

2.2 HYDROLOGY

Historic aerial photos (the earliest of which is from 1937) indicate the predominant flow pattern in the review area from northwest to southeast, except for the southwest part of the site with trends to the west. Subsequent photos (1947, 1957, and 1964) show an increase in agricultural use and associated irrigation. During this time period, irrigation runoff and still appeared to flow southeast out of the review area, joining Laguna. Current conditions (1971 to present) continue to maintain the general southeast flow pattern but a large ditch has been constructed to provide water for the compost operation and the ditch has been designed to flow north. Florin Road has also been constructed and blocks historical southeast flows into Laguna Creek, creating a large seasonal wetlands in the southeast corner of the review area. Water from this wetland flows into Laguna Creek only during large storm events. Historic aerial photos are included in Appendix A. Laguna Creek joins Morrison Creek approximately 20 mi west, then flows southwest for approximately 3 mi and joins the Sacramento River.

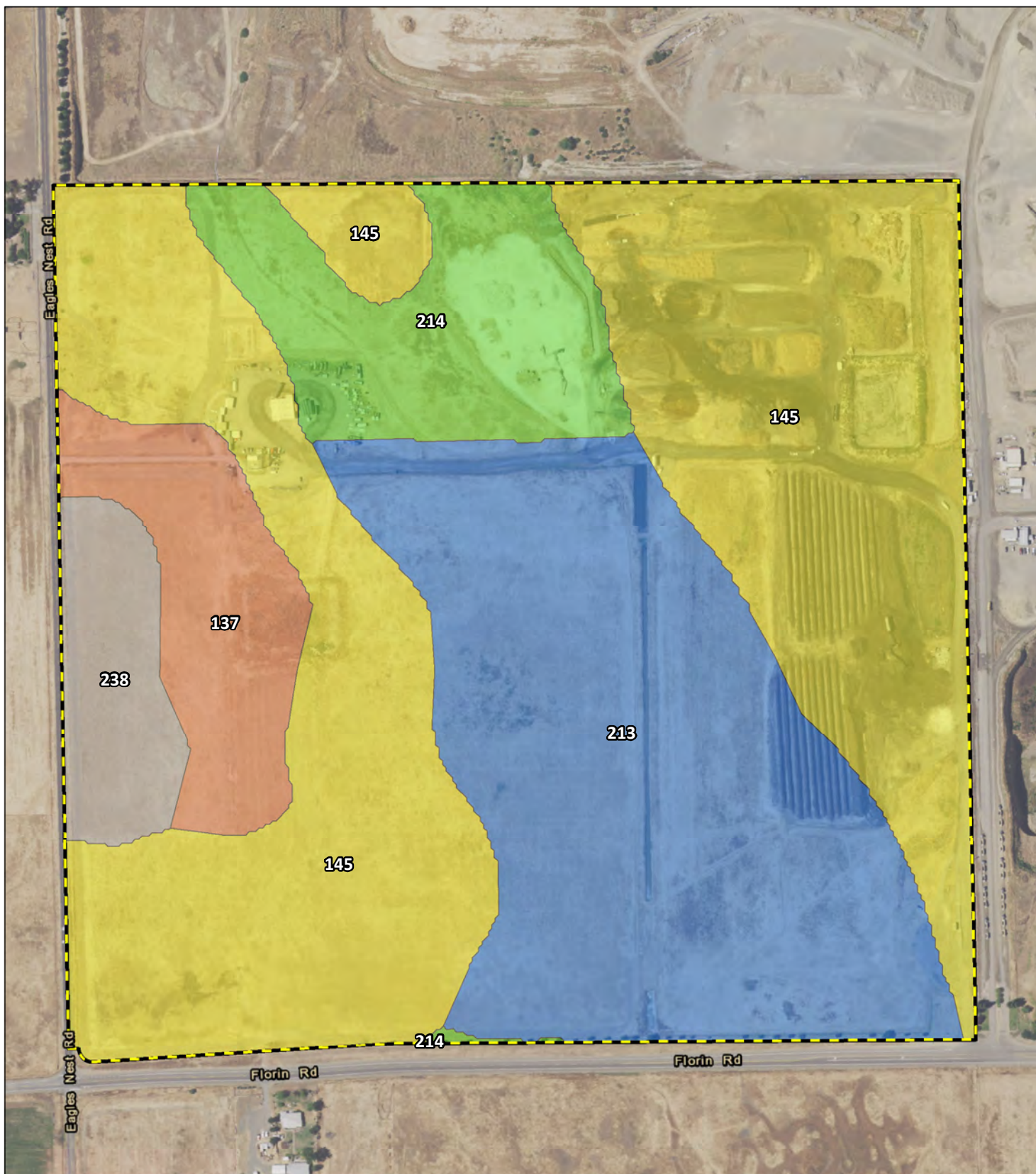
2.3 SOILS

The review area contains the following soil types (shown in Figure 4):

- Durixeralfs, 0 to 1 percent slopes
- Fiddymment fine sandy loam, 1 to 8 percent slopes
- San Joaquin silt loam, leveled, 0 to 1 percent slopes
- San Joaquin silt loam, 0 to 3 percent slopes
- Xerarents-San Joaquin complex, 0 to 1 percent slopes

All soil types in the review area with the exception of the Fiddymment fine sandy loam soils are considered hydric soils (NRCS Soil Survey Sacramento County, California).

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Review Area - (154.82 ac)

NRCS Soil Classification



137 - Durixeralfs, 0 to 1 percent slopes



145 - Fiddymment fine sandy loam, 1 to 8 percent slopes



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



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



238 - Xerarents-San Joaquin complex, 0 to 3 percent slopes



0 200 400
FEET

SOURCE: Basemap - NAIP Aerial Imagery (6/2016); Mapping - NRCS Soil Survey Sacramento County (1993)

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FIGURE 4

*Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601
NRCS Soil Classifications*

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2.3.1 Durixeralfs, 0 to 1 percent slopes

Durixeralfs are a great group of soils in the Alfisols order and the Xeralfs suborder and consist of well-drained soils formed in material derived from granitic rock sources. These soils are found on low terraces. The mean annual precipitation is about 15 inches and the mean annual temperature is about 62°F.

2.3.2 Fiddymment fine sandy loam, 1 to 8 percent slopes

The Fiddymment-series soil consists of moderately deep, well-drained soils formed in material weathered from consolidated sediments of mixed rock sources. These soils are on nearly level to rolling low terraces and hills. The mean annual precipitation is about 19 inches and mean annual temperature is about 61°F. Soil temperature ranges from 62 to 67°F. Soil between 8 and 21 inches is moist in all parts from December through April and is dry in all parts from June through mid-October in most years.

2.3.3 San Joaquin soil complex

The San Joaquin-series soils consist of moderately deep to a duripan (depth ranges from 20 to 40 inches), well and moderately well drained soils formed in alluvium derived from mixed but predominantly granitic rock sources. They are on undulating low terraces; some areas have been leveled. The mean annual precipitation is about 15 inches and the mean annual temperature is about 61°F. Soil temperature ranges from 60 to 64°F. Soil at depths of about 7 to 24 inches or directly above the duripan is dry in all parts from June to November and is moist in some or all parts the rest of the year. Permeability is very slow, so some areas are subject to rare or occasional flooding.

2.3.4 Xeraents-San Joaquin complex, 0 to 1 percent slopes

Xerarents-San Joaquin Complex soils consist of well and moderately well drained soils formed in alluvium derived from granitic rock sources. These soils are found on low terraces in floodplains and basin floors. The mean annual precipitation is about 17 inches and the mean annual temperature is about 62°F.

2.4 PLANT COMMUNITIES / LAND USES

Natural habitats comprise approximately 111.62 ac of the review area and include non-native grassland, seasonal wetland, and open water communities. The remaining 43.62 ac are devoted to developed land uses (Figure 5).

2.4.1 Non-Native Grasslands

Non-native grasslands are the most common vegetation community in the review area, comprising 70% of the site. This community is dominated by Italian ryegrass (*Festuca perennis*) but wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and foxtail barley (*Hordeum murinum*) are also present, with many other grasses and herbs present in smaller numbers. Small areas of ruderal vegetation and barren disturbed areas are included in this category. Portions of the non-native grassland community are mowed and/or disked annually for fire protection.

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Review Area - (154.82 ac)

Plant Communities / Land Uses - (154.82 ac)



Developed - (42.96 ac)



Nonnative Grassland - (108.12 ac)



Open Water - (1.25 ac)



Seasonal Wetland - (2.49 ac)



0 200 400
FEET

SOURCE: Basemap - NAIP Aerial Imagery (06/2016); Mapping - LSA (2017)

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FIGURE 5

*Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601
Plant Communities on the
Carli Property Expansion Site*

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2.4.2 Seasonal Wetlands

Seasonal wetlands occur in several locations within the review area. The seasonal wetlands are dominated by Italian ryegrass, rabbitsfoot grass (*Polypogon monspeliensis*), common spikerush (*Eleocharis macrostachya*), and curly dock (*Rumex crispus*) but several other species common in seasonal wetlands were also observed including Mediterranean barley (*Hordeum marinum*), low manna grass (*Glyceria declinata*), and vernal pool buttercup (*Ranunculus bonariensis* var. *trisepalus*).

2.4.3 Open Water

Aquatic open water features within the review area include a ponded ditch bisecting the southern half of the property and a retention basin in the northeast corner of property. Both features are man-made and were created to store water as part of the composting operation dust control practices. Consequently, both features are typically inundated. Based on minimal vegetation present, these areas are mapped as open water.

2.4.4 Developed Areas

Developed areas include the office complex, compost piles, entrance station, and gravel roads.

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3.0 REGULATORY BACKGROUND

The discharge of dredged or fill material into streams, lakes, and other bodies of water, including wetlands, are often regulated by the USACE under Section 404 of the CWA. The USACE also regulates activities in navigable waters under Section 10 of the Rivers and Harbors Act. The basis of USACE jurisdiction over various waters is described in the following sections.

3.1 SECTION 404

Under Section 404 of the CWA, the USACE regulates the discharge of dredged or fill material into waters of the U.S., including wetlands.

3.1.1 Definition of Waters of the U.S.

In the USACE/EPA CWA regulation (33 CFR 328.3(a)), the term “waters of the U.S.” is defined as follows:

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

Based on this definition, the USACE will assert jurisdiction over the following waters as outlined in the Jurisdictional Determination Form Instructional Guidebook (May 2007):

1. Traditional Navigable Waters (TNW) and adjacent wetlands.
2. Relatively Permanent Waters (RPW) (i.e. tributaries that typically flow year-round or have continuous flow at least seasonally) that flow directly or indirectly into TNW.
3. Non-Relatively Permanent Waters (Non-RPW) that flow directly or indirectly into TNW (with significant nexus determination).

4. Wetlands directly abutting an RPW that flows directly or indirectly into a TNW.
5. Wetlands adjacent to by not directly abutting an RPW that flows directly or indirectly into a TNW (with significant nexus determination).
6. Wetlands adjacent to non-RPWs that flow directly or indirectly into a TNW (with significant nexus determination).

3.1.2 Significant Nexus Evaluation

A significant nexus evaluation includes:

1. An assessment of the flow characteristics and functions of the tributary, itself, in combination with the functions performed by any wetlands adjacent to the tributary to determine if they have more than an insubstantial or speculative effect on the chemical, physical, and/or biological integrity of TNWs.
2. A consideration of hydrologic factors such as volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary; proximity to the TNW; size of the watershed; average annual rainfall; and average annual winter snow pack.
3. A consideration of ecologic factors such as the ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to TNWs; the ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW; the ability for adjacent wetlands to trap and filter pollutants or store flood waters; and the ability to maintain water quality.

3.1.3 Wetlands

The USACE and EPA defines wetlands as follows:

“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 to life in saturated soil conditions.”

In order to satisfy the USACE wetland definition, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific definition and criteria that must be satisfied in order for that particular wetland characteristic to be met. Several parameters (indicators) may be analyzed to determine whether the criteria are satisfied. Conversely, if an area lacks one of the three characteristics under normal circumstances, the area is non-wetland.

3.1.4 Non-Wetland Waters

Non-wetland waters essentially include any body of water, not otherwise exempted, that displays an ordinary high water mark (OHWM).

3.1.5 Isolated Waters

As discussed above, USACE regulatory jurisdiction under Section 404 is founded on a connection between the water body in question connectivity to navigable waters. This connection may be

direct, through a tributary system linking a stream channel with traditional navigable waters, or may be indirect, through a nexus identified in the USACE regulations.

3.1.6 Man-Made Waters

The preamble to USACE regulations (Preamble Section 328.3 Definitions) states that the USACE does not generally consider the following waters to be waters of the U.S. The USACE does, however, reserve the right to regulate these waters on a case-by-case basis.

- Non-tidal drainage and irrigation ditches excavated on dry land.
- Artificially irrigated areas that would revert to upland if the irrigation ceased.
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- Water filled depressions created in dry land incidental to construction activity and pits excavated in dry land for purposes of obtaining fill, sand or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the U.S.

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4.0 METHODS

A delineation of all aquatic features in the review area was conducted on May 10, 2017, by LSA biologists Mike Trueblood and Anna Van Zuuk. Current and historical photos (see Appendix A) were also reviewed prior to the field investigation.

All aquatic features in the review area were delineated in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2008 Regional Supplement – Arid West Region. A total of 19 formal observation points were described in the field. At each point, a pit was dug and soils and hydrology examined; vegetation was also characterized at each data point. Copies of the field data forms are attached (Appendix B).

Aquatic features were located in the field using a GPS unit with sub-meter accuracy. All data was entered into a GIS database to calculate the extent of the mapped features in the review area and to produce the final mapping. Final mapping was completed using color aerial photos, dated June 2016, at a scale of 1 inch = 200 ft.

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5.0 DELINEATION RESULTS

A total of 3.857 ac of potential jurisdictional waters were mapped in the review area, consisting of approximately 2.698 ac of potential wetlands and 1.159 ac of non-wetland waters. Areas potentially meeting USACE criteria for wetlands in the review area include scattered isolated wetlands, a large seasonal wetland in the southeast corner, and a manmade inundated ditch that extends through the center of the review area. Potential non-wetland waters in the review area include several ephemeral ditches and a manmade retention basin in the northeast corner. Potential jurisdictional waters are shown in Figure 5 and summarized in Table 1. Representative photos are also provided in Appendix D.

Table 1: Summary of Potential Jurisdictional Waters in the Review Area (acres)

Type	Total
Wetlands	
Seasonal Wetlands	1.589
Ephemeral Drainage	0.049
Adjacent Wetlands	0.126
Ponded Ditch	0.858
Isolated Wetland	0.076
Wetlands Subtotal	2.698
Non-Wetland Waters	
Ephemeral Drainage	0.102
Retention Basin	1.057
Non-Wetland Waters Subtotal	1.159
Total	3.857

A comprehensive discussion of the delineation results is provided below. Potential wetlands in the review area are characterized by data points 1 – 11 and 13 – 16, 18, and 19. Wetland data forms are provided in Appendix B.

Areas that were sampled and determined to be non-wetland waters include the man-made retention basin and ephemeral drainage ditches. These features were characterized by data points 1a – 11a, 12, and 13a – 16a, 17, 18a, and 19a.

5.1 ISOLATED DEPRESSIONS

5.1.1 Vegetation

Data collection points 6, 8, 9, 12, 13, 15, 18, and 19 were taken on the margins of isolated wetlands within the review area. The margins were dominated by a variety of hydrophytic vegetation including tall flatsedge (*Cyperus eragrostis*) – FACW, common spikerush – OBL, Italian ryegrass – FAC, low manna grass – FACW, Mediterranean barley – FAC, hyssop loosestrife (*Lythrum hyssopifolium*) – OBL, stalked popcornflower (*Plagiobothrys stipitatus* var. *micranthus*) – FACW, rabbitsfoot grass – FACW, and curly dock – FAC. Other hydrophytic vegetation present but not dominant included brass buttons (*Cotula coronopifolia*) – OBL, toad rush (*Juncus bufonius* var. *bufonius*) – FACW, yellow glandweed (*Parentucellia viscosa*) – FAC, prostrate knotweed (*Polygonum aviculare*) – FACW, and vernal pool buttercup – OBL. Since the isolated depression margins supported a variety of dominant hydrophytic species according to the USACE, the vegetation criterion for wetlands was met.

5.1.2 Soils

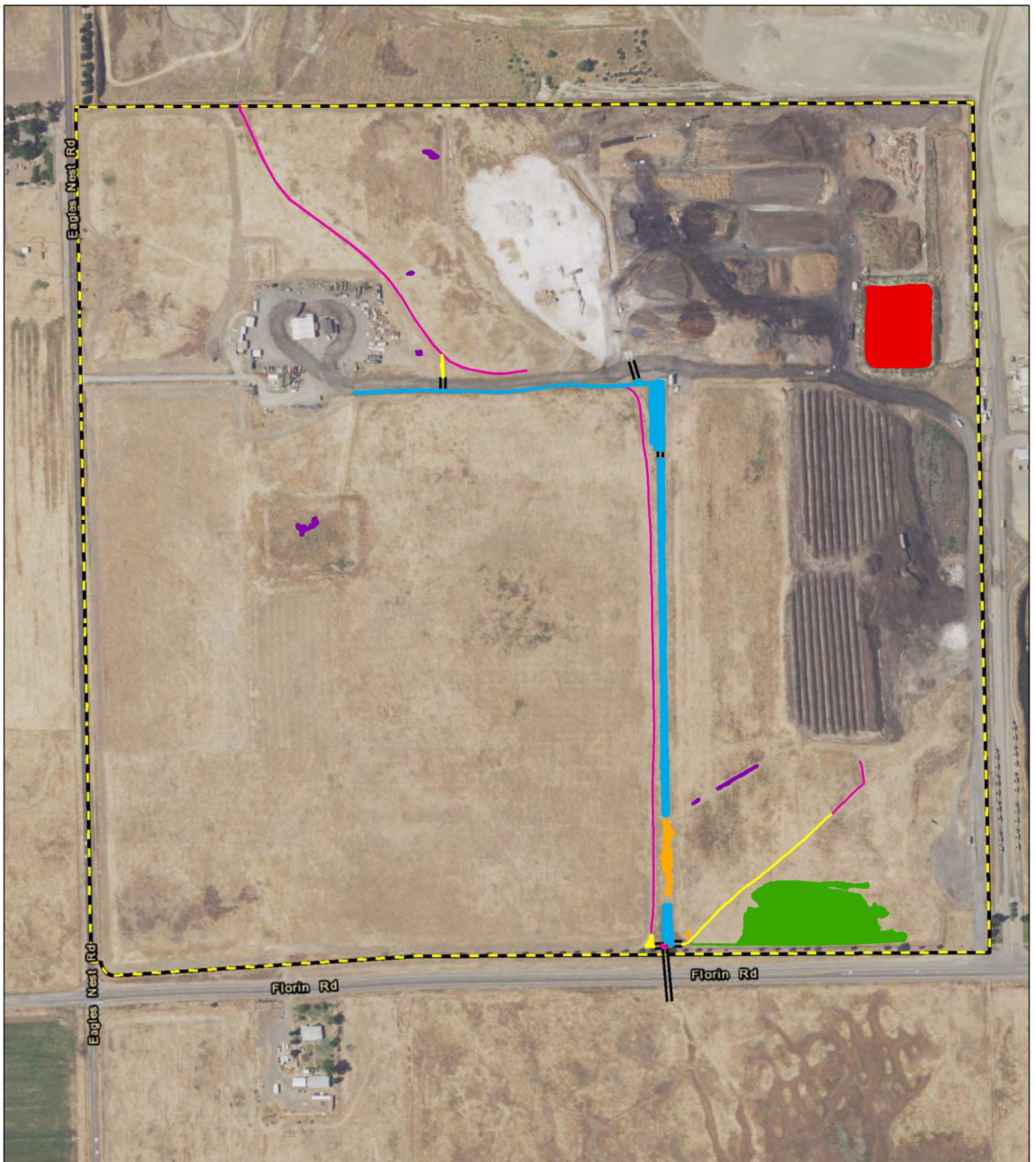
Indicators for hydric soils were observed at data points 6, 8, 9, 13, 15, 18, and 19. Data point 6 consisted of a layer with a Munsell moist color of 10YR 4/2 to 12 inches and contained 7 percent redoxomorphic concentrations in the matrix of 2.5YR 3/6. Data point 8 contained a layer of organic material to 2 inches and a second layer with a Munsell moist color of 10YR 3/2 to 13 inches, with 5 percent redoxomorphic concentrations in the matrix of 2.5YR 3/6. Data points 9 and 13 included a layer to 14 and 12 inches, respectively, with a Munsell moist color of 10YR 3/2. Data point 15 also contained a layer with a Munsell moist color of 10YR 3/2 to 4 inches, after which a hardpan was encountered. Data point 18 consisted of a layer with a Munsell moist color of 10YR 3/2 to 8 inches and contained 5 percent redoxomorphic concentrations in the matrix of 2.5YR 4/8. Data point 19 contained a layer to 10 inches with a Munsell moist color of 10YR 4/3. Data points 6 and 8 meet the requirements of the Redox Dark Surface indicator for hydric soils, data point 15 contains a hardpan at 4 inches, and data point 18 meets the requirements of the Redox Depressions indicator for hydric soils. Data points 9, 13, and 19 contain problematic soils due to recent human disturbance and presence of new fill material. These data points are consistent with problematic hydric soils of recently developed wetlands. These soils meet the USACE hydric soils criterion for wetlands.

5.1.3 Hydrology

Hydrology indicators identified included biotic crust and surface soil cracks, which are primary indicators for hydrology and thus meet the minimum USACE hydrology criterion for wetlands.

5.1.4 Paired Upland Data Points

Corresponding upland data points were taken to help determine the upland/wetland boundary (data points 6a, 8a, 9a, 13a, 15a, 18a, and 19a). Data point 12 was determined to be an upland point due to the lack of hydric soil indicators. In areas with recently developed wetlands, consistent with problematic hydric soils observed at data points 9, 13, and 19, the data points were considered to be within a wetland only if they also exhibited hydrophytic vegetation and hydrology indicators. This is consistent with the 2008 Regional Supplement – Arid West Region guidelines for problematic hydric soils.



LSA



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FEET

LEGEND

Review Area - (154.82 ac)

Culverts

Wetlands - (2.698 ac)

Isolated Wetlands - (0.076 ac)

Adjacent Wetlands - (0.126 ac)

Seasonal Wetland - (1.589 ac)

Ponded Ditches - (0.858 ac)

Ephemeral Drainages - (0.049 ac)

Non-Wetland Waters - (1.159 ac)

Ephemeral Drainages - (0.102 ac)

Retention Basin - (1.057 ac)

FIGURE 6

*Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601*

Potential Jurisdictional Waters of the U.S.

SOURCE: Basemap - NAIP Aerial Imagery (6/2016); Mapping - LSA (2017)

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5.2 SEASONAL WETLANDS

5.2.1 Vegetation

Data collection points 1, 2, 3, 4, and 5 were taken on the margins of the large seasonal wetland located in the southeast corner of the review area. The margins were dominated by a variety of hydrophytic vegetation including Italian ryegrass – FAC, Mediterranean barley – FAC, and rabbitsfoot grass – FACW. Other hydrophytic vegetation present but not dominant included common spikerush – OBL, low manna grass – FACW, stalked popcornflower – FACW, vernal pool buttercup – OBL, and curly dock – FAC. Since the seasonal wetland margins contain a variety of dominant hydrophytic species according to the USACE, the vegetation criterion for wetlands was met.

5.2.2 Soils

Indicators for hydric soils were observed at data points 1, 2, 3, 4, and 5. Data point 1 consisted of a layer to 7 inches with a Munsell moist color of 10YR 2/2 and a subsequent layer from 7 to 13 inches with a Munsell moist color of 10YR 3/2 containing 15 percent redoxomorphic concentration in the pore linings of 2.5YR 3/6. Data point 2 consisted of a layer to 6 inches with a Munsell moist color of 10YR 2/1 and a second layer from 6 to 14 inches with a Munsell moist color of 10YR 3/2 containing 10 percent redoxomorphic concentrations in the pore linings of 2.5YR 4/8. Data point 3 consisted of a layer to 6 inches with a Munsell moist color of 10YR 2/1 and a second layer from 6 to 12 inches with a Munsell moist color of 10YR 3/2 containing 15 percent redoxomorphic concentration in the matrix of 2.5YR 4/8. Data point 4 consisted of a layer to 5 inches of organic matter and a second layer from 5 to 13 inches with a Munsell moist color of 10YR 4/2 containing 10 percent redoxomorphic concentrations in the pore linings of 2.5YR 4/8. Data point 5 consisted of a layer to 5 inches with a Munsell moist color of 10YR 3/2 and a subsequent layer from 5 to 12 inches with a Munsell moist color of 10YR 4/2 containing 20 percent redoxomorphic concentrations in the matrix of 2.5YR 4/8. Data points 1 through 5 meet the requirements of the Redox Dark Surface indicator for hydric soils, and thus meet the USACE hydric soils criterion for wetlands.

5.2.3 Hydrology

Hydrology indicators identified included biotic crust, which is a primary indicator for hydrology and thus meets the minimum USACE hydrology criterion for wetlands.

5.2.4 Paired Upland Data Points

Corresponding upland data points were taken to help determine the upland/wetland boundary (data points 1a, 2a, 3a, 4a, and 5a).

5.3 PONDED DITCH

5.3.1 Vegetation

Data collection points 10 and 14 were taken on the margins of the ponded ditch within the review area. The margins were dominated by a variety of hydrophytic vegetation including common spikerush – OBL, rabbitsfoot grass – FACW, shining willow (*Salix lasiolepis*) – FACW, and cattail (*Typha sp.*) – OBL. Other hydrophytic vegetation present but not dominant included tall flatsedge – FACW, low manna grass – FACW, duckweed (*Lemna minor*) – OBL, and curly dock – FAC. Since the

ponded ditch margins contain a variety of dominant hydrophytic species according to the USACE, the vegetation criterion for wetlands was met.

5.3.2 Soils

Indicators for hydric soils were observed at data points 10 and 14. At data point 10, a soil pit was not dug and soils were not evaluated due to the presence of surface water and nearly vertical banks of the feature. Data point 14 consisted of a layer to 9 inches with a Munsell moist color of 10YR 4/3. Data points 10 and 14 contain problematic soils due to the presence of surface water and recent human disturbance. It is assumed that data point 10 would exhibit hydric soil indicators due to the presence of surface water and data point 14 is consistent with problematic hydric soils of recently developed wetlands. These soils meet the USACE hydric soils criterion for wetlands.

5.3.3 Hydrology

Hydrology indicators identified included surface water and biotic crust, which are primary indicators for hydrology and thus meet the minimum USACE hydrology criterion for wetlands.

5.3.4 Paired Upland Data Points

Corresponding upland data points were taken to help determine the upland/wetland boundary (data points 10a and 14a). In areas with recently developed wetlands, consistent with problematic hydric soils observed at data point 14, and areas where soils were not evaluated due to the presence of surface water (data point 10) the data points were considered to be within a wetland only in they also exhibited hydrophytic vegetation and hydrology indicators. This is consistent with the 2008 Regional Supplement – Arid West Region guidelines for problematic hydric soils.

5.4 EPHEMERAL DITCHES AND RETENTION BASIN

5.4.1 Vegetation

Data collection points 7, 11, 16, and 17 were taken on the margins of ephemeral ditches within the review area. The margins were dominated by a variety of hydrophytic vegetation including fringed willowherb (*Epilobium ciliatum*) – FACW, Italian ryegrass – FAC, and rabbitsfoot grass – FACW. Other hydrophytic vegetation present but not dominant included Mediterranean barley – FAC, common spikerush – OBL, curly dock – FAC, and tall flatsedge – FACW. Since the ditch margins contain a variety of dominant hydrophytic species according to the USACE, the vegetation criterion for wetlands was met.

5.4.2 Soils

Indicators for hydric soils were observed at data points 7, 11, and 16. Data point 7 consists of a layer to 2 inches of black compost and a subsequent layer from 2 to 14 inches with a Munsell moist color of 10YR 4/2 containing 40 percent redoxomorphic concentration in the matrix of 2.5YR 3/6. Data point 11 consists of a layer to 14 inches with a Munsell moist color of 10YR 3/2 and contained 5 percent redoxomorphic concentrations in the matrix of 5YR 4/6. Data point 16 consisted of a layer to 13 inches with a Munsell moist color of 10YR 3/2 and contained 5 percent redoxomorphic concentrations in the matrix of 2.5YR 3/6. Data points 7, 11, and 16 meet the requirements of the

Redox Dark Surface indicator for hydric soils, and thus meet the USACE hydric soils criterion for wetlands.

5.4.3 Hydrology

Hydrology indicators identified included biotic crust, which is a primary indicator for hydrology and thus meets the minimum USACE criterion for wetlands.

5.4.4 Paired Upland Data Points

Corresponding upland data points were taken to help determine the upland/wetland boundary (data points 7a, 11a, and 16a). Data point 17 was determined to be an upland point due to the lack of hydric soil and hydrology indicators.

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6.0 SECTION 404 JURISDICTIONAL DETERMINATION

A total of 1.993 acres are considered waters of the U.S. and under the CWA, consisting of two adjacent wetland depressions, seasonal wetland features, and two ephemeral ditches. A total of 1.864 acres were determined not to be subject to regulation under Section 404 of the CWA, consisting of six wetland depressions, the ponded ditch, one ephemeral ditch, and the retention basin. A detailed summary of Section 404 and non-Section 404 waters is provided below in Table 2 and these features are shown on Figures 6 and 7.

Table 2: Detailed Summary of Section 404 Waters and Non-Section 404 Waters in the Review Area (acres)

Type	Section 404 Waters	Non-Section 404 Waters	Total
Wetlands			
Seasonal Wetlands	1.589	0.000	1.589
Ephemeral Drainage	0.040	0.009	0.048
Adjacent Wetlands	0.126	0.000	0.126
Ponded Ditch	0.193	0.665	0.858
Isolated Wetland	0.000	0.076	0.076
Wetlands Subtotal	1.948	0.750	2.698
Non-Wetland Waters			
Ephemeral Drainage	0.045	0.057	0.102
Retention Basin	0.000	1.057	1.057
Non-Wetland Waters Subtotal	0.045	1.114	1.159
Total	1.993	1.864	3.857

Also refer to the Approved Jurisdictional Delineation (JD) Form (Appendix C) and representative photos (Appendix D).

6.1 EPHEMERAL DRAINAGES

Of the three ephemeral drainages within the review, only two were determined to be tributary waters. The small drainage that parallels the ponded ditch in the center of the review area (Non-RPW 1) and the drainage north of the seasonal wetland convey flows south of the review area (Non-

RPW 2). These drainages have the potential to carry waters to Laguna Creek, an intermittent stream and secondary tributary to the Sacramento River. Therefore, these ephemeral drainages were both determined to be waters of the U.S., and subject to USACE regulation under Section 404 of the CWA.

The remaining drainage, located northeast of the office complex, has been altered to convey site operation waters north into a large mining pit. Based on the lack of connectivity to a TNW and artificial nature of this feature, this drainage is not considered a water of the U.S. and would not be regulated under Section 404 of the CWA.

6.2 SEASONAL WETLANDS

The large seasonal wetland in the southeast corner of the property directly abuts a non-RPW that flows indirectly into a TNW, and therefore determined to be waters of the U.S., and subject to USACE regulation under Section 404 of the CWA.

6.3 ISOLATED DEPRESSIONS

Eight isolated depressions were identified in the review area. Of these, only two (the southernmost depression adjacent to the large seasonal wetland and the newly created depression directly south of the ponded ditch) demonstrated a significant nexus by being a wetland adjacent to a non-RPW that flows directly or indirectly into a TNW. The remaining six depressions / isolated wetlands do not demonstrate a significant nexus and are not considered waters of the U.S., and would not be regulated under Section 404 of the CWA.

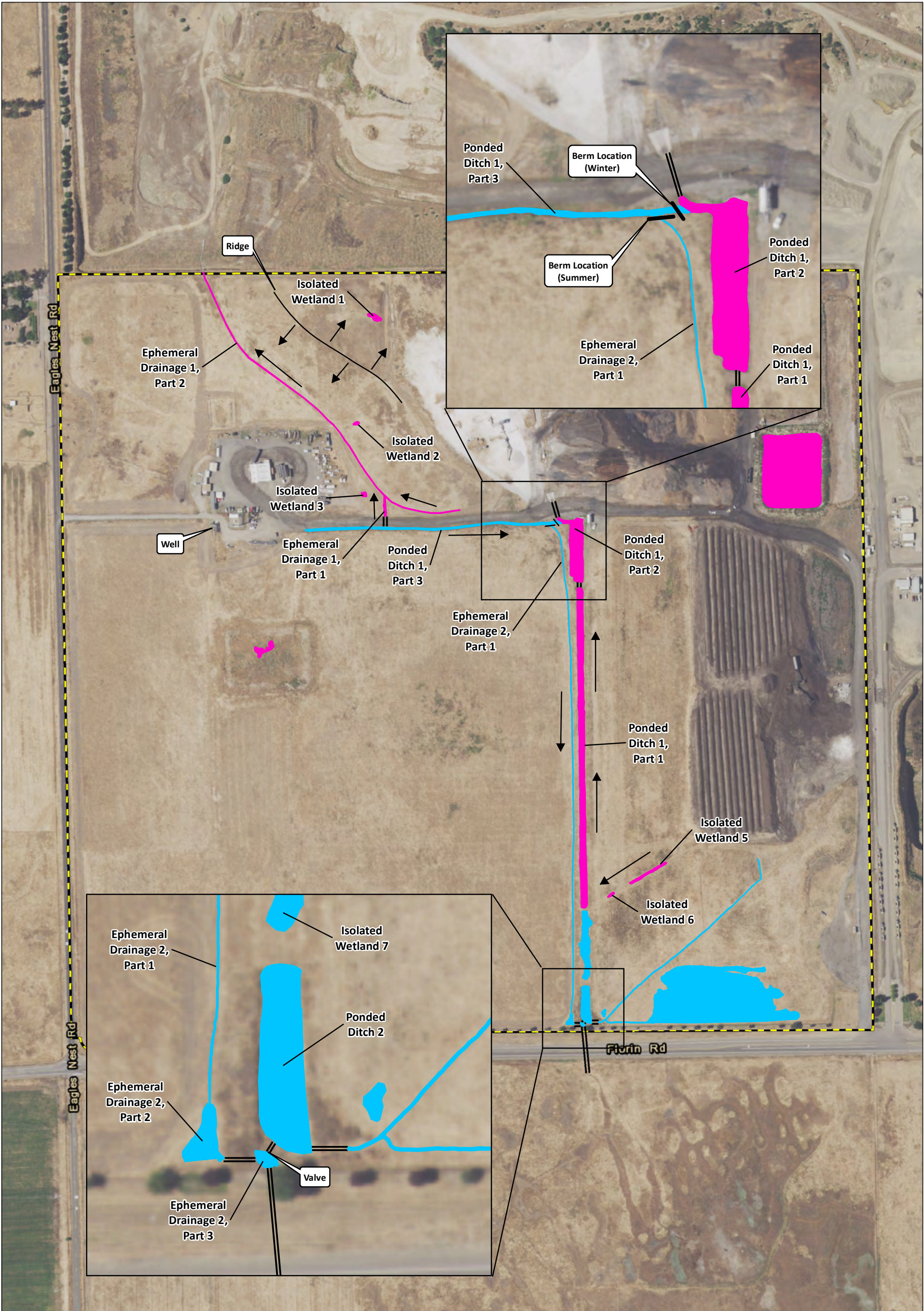
6.4 PONDED DITCH

The ponded ditch was excavated in uplands (see Appendix A for historic aerial photos) and designed to flow north. Water is artificially pumped into the ditch from a well and is used in compost operations for dust control. This feature does not flow or have connection to any other waters within or adjacent to the review area. Based on the lack of a connectivity to a TNW and artificial nature of this feature, this ditch is not considered a waters of the U.S. and would not be regulated under Section 404 of the CWA.

However, a section of the ponded ditch was recently filled and separated an approximately 200 ft long section of the ditch at the south end of the review area from the majority of the ditch to the north. This has effectively reversed flow direction of the southern section of the ponded ditch to the south and now conforms with natural flows in the area. Since this section of ditch is connected to non-RPW 1 through a valve release culvert, this feature is now considered a tributary waters of the U.S. and is subject to regulation under Section 404 of the CWA.

6.5 RETENTION BASIN

The retention basin is an isolated RPW that is not connected to other waters within or adjacent to the review area. Additionally, this feature is man-made and has been created by placing elevated basin walls; no excavation below ground level occurred. This feature is not considered waters of the U.S., and would not be regulated under Section 404 of the CWA.

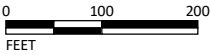


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Feature Name	Acres
Ephemeral Drainage 1, Part 1	0.009
Ephemeral Drainage 1, Part 2	0.057
Ephemeral Drainage 2, Part 1	0.038
Ponded Ditch 1, Part 3	0.116
Isolated Wetland 1	0.015
Isolated Wetland 2	0.004
Isolated Wetland 3	0.005
Ponded Ditch 1, Part 1	0.456
Ponded Ditch 1, Part 2	0.209
Retention Basin	1.057

LSA



SOURCE: Basemap - NAIP Aerial Imagery (6/2016); Mapping - LSA (2017)
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LEGEND

- Review Area - (154.82 ac)
- Data Points
- Culverts

Jurisdictional Waters of the U.S. (1.993 ac)

- Wetlands (1.948 ac)
- Non-Wetland Waters (0.045 ac)

Non-404 Waters (1.864 ac)

- Wetlands (0.750 ac)
- Non-Wetland Waters (1.114 ac)

Map Index

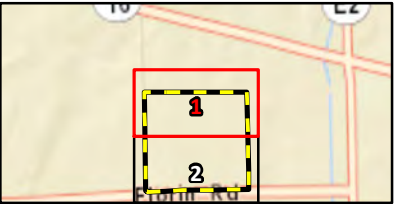


FIGURE 8
Page 1 of 2

Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601
Approved Jurisdictional Delineation
200-Foot Scale Focus

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LSA



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SOURCE: Basemap - NAIP Aerial Imagery (6/2016); Mapping - LSA (2017)
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LEGEND



Review Area - (154.82 ac)



Data Points



Culverts

Jurisdictional Waters of the U.S. (1.993 ac)



Wetlands (1.948 ac)



Non-Wetland Waters (0.045 ac)

Non-404 Waters (1.864 ac)



Wetlands (0.750 ac)



Non-Wetland Waters (1.114 ac)

Map Index

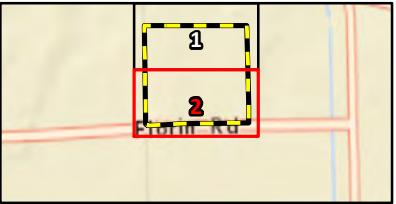


FIGURE 8
Page 2 of 2

Sacramento Aggregates Expansion
Sacramento County, California
LSA Project No. VMC1601
Approved Jurisdictional Delineation
200-Foot Scale Focus

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7.0 CONCLUSION

A total of 3.857 acres of wetlands and non-wetland waters were mapped in the review area, of which 1.993 acres were determined to be Section 404 waters, and 1.864 acres were determined to be non-Section 404 waters. This information is summarized below in Table 2.

Table 3: Summary of Waters of the U.S. in the Review Area (acres)

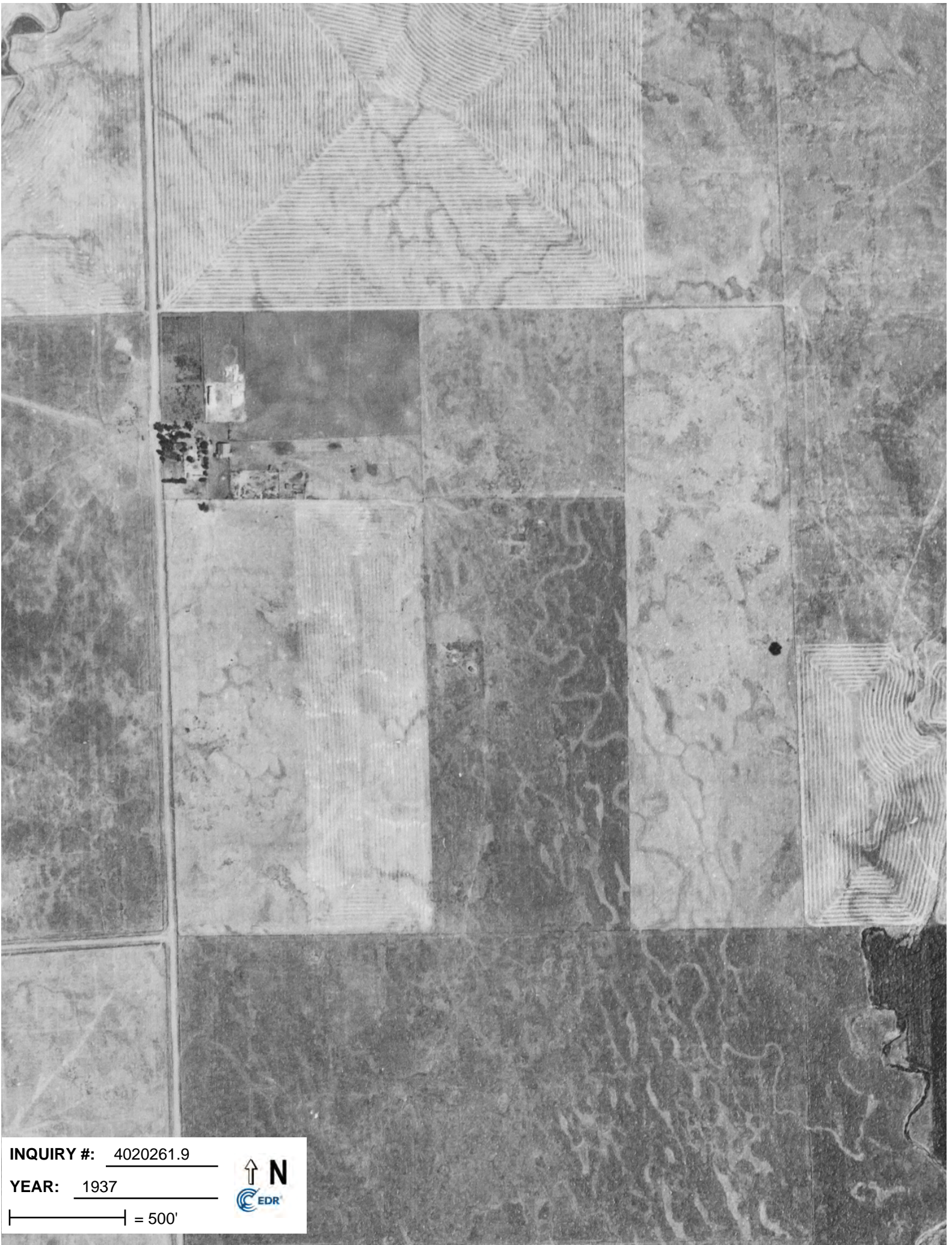
Type	Section 404 Waters	Non-Section 404 Waters	Total
Wetlands	1.948	0.750	2.698
Non-Wetland Waters	0.045	1.114	1.159
Total	1.993	1.864	3.857

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APPENDIX A

HISTORIC AERIAL PHOTOS

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INQUIRY #: 4020261.9

YEAR: 1937

| = 500'





INQUIRY #: 4020261.9

YEAR: 1947

| = 500'





INQUIRY #: 4020261.9

YEAR: 1957

| = 500'





INQUIRY #: 4020261.9

YEAR: 1964

| = 500'





INQUIRY #: 4020261.9

YEAR: 1971

| = 500'



9-81

1:120



INQUIRY #: 4020261.9

YEAR: 1981

| = 500'





INQUIRY #: 4020261.9

YEAR: 1993

| = 500'





INQUIRY #: 4020261.9

YEAR: 1998

| = 500'





INQUIRY #: 4020261.9

YEAR: 2005

| = 500'





INQUIRY #: 4020261.9

YEAR: 2006

| = 500'





INQUIRY #: 4020261.9

YEAR: 2009

| = 500'





INQUIRY #: 4020261.9

YEAR: 2010

| = 500'





INQUIRY #: 4020261.9

YEAR: 2012

| = 500'



APPENDIX B

WETLAND DATA FORMS

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 1
 Investigator(s): A. VAN ZUUL, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	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) _____
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) _____																	
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: _____) 1. <u>RUMEX CRISPUS</u> <u>5</u> <u>N</u> <u>FAC</u> 2. <u>PLAGIOBOTHYRUS STIPITATUS VAR. MICRANTHUS</u> <u>2</u> <u>N</u> <u>FACW</u> 3. <u>ELEOCHARIS MACROSTACHYA</u> <u>10</u> <u>N</u> <u>OBL</u> 4. <u>FESTUCA PERENNIS</u> <u>8</u> <u>N</u> <u>FAC</u> 5. <u>POLYPODON MONSPELIENSIS</u> <u>40</u> <u>Y</u> <u>FACW</u> 6. _____ 7. _____ 8. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>85</u>																		

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		
0-7"	10 YR 2/2	100					LOAMY SAND	
7-15"	10 YR 3/2	85	2.5 YR 3/6	15	C	PL	LOAMY SAND	

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.)		Indicators for Problematic Hydric Soils ³ :
<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)		

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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 checked="" type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>>13"</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>>13"</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--	---

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARL PROPERTY (VML 1601) City/County: SACRAMENTO Sampling Date: 05/16/2017
 Applicant/Owner: TRIANGLE ROCK (VOLCAN) State: CA Sampling Point: 1A
 Investigator(s): A. VAN ZUYLE, M. TWEED Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>FESTUCA PERENNIS</u> <u>95</u> <u>Y</u> <u>FAC</u> 2. <u>HORDEUM MARINUM</u> <u>5</u> <u>N</u> <u>FAC</u> 3. <u>RUMEX CRISPUS</u> <u>41</u> <u>N</u> <u>FAC</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks:				

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HYDROLOGY

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

Secondary Indicators (2 or more required)

- Field Observations:**

Wetland Hydrology Present? Yes ☐ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 2
 Investigator(s): A. VAN ZUUL, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: _____)				
1. <u>FESTUCA PERENNIS</u>	<u>14</u>	<u>Y</u>	<u>FAC</u>	
2. <u>HORDEUM MARINUM</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u>RUMEX CRISPUS</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust <u>70</u>			
Remarks:				

SOIL

Sampling Point: 2

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		
0-6"	10 YR 2/1	100					LOAMY SAND	
6-14"	10 YR 3/2	90	2.5 YR 4/8	10	C	PL	CLAYEY SAND	

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.)

Indicators for Problematic Hydric Soils³:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <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) | |

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

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 checked="" type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input checked="" type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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): _____Water Table Present? Yes ☐ No ☒ Depth (inches): >14"Saturation Present? Yes ☐ No ☒ Depth (inches): >14"
(includes capillary fringe)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: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 2A
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>99</u> x 3 = <u>297</u> FACU species _____ x 4 = _____ UPL species <u>1</u> x 5 = <u>5</u> Column Totals: <u>100</u> (A) <u>302</u> (B) Prevalence Index = B/A = <u>3.02</u>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>FESTUCA PERENNIS</u> <u>93</u> <u>Y</u> <u>FAC</u> 2. <u>HORDEUM MARINUM</u> <u>5</u> <u>N</u> <u>FAC</u> 3. <u>RUMEX CRISPUS</u> <u>2</u> <u>N</u> <u>FAC</u> 4. <u>GERANIUM DISSECTUM</u> <u>41</u> <u>N</u> <u>UPL</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				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)
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 2A

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		
0-14"	10YR 2/2	95	2.5YR 4/8	5	C	PL	LOAMY SAND	

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.)		Indicators for Problematic Hydric Soils ³ :
<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)		

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
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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 type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (includes capillary fringe)	Depth (inches): _____ Depth (inches): <u>714"</u> Depth (inches): <u>714"</u>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 3
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
				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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: _____)				
1. <u>ELEOCHARIS MACROSTACHYA</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
2. <u>FESTUCA PERENNIS</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3. <u>HORDEUM MARINUM</u>	<u>7</u>	<u>N</u>	<u>FAC</u>	
4. <u>RUMEX CRISPUS</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>50</u>				
Remarks:				

SOIL

Sampling Point: 3

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		
0-6"	10 YR 2/1	100					LOAMY SAND	
6-12"	10 YR 3/2	85	2.5YR 4/8	15	C	M	SILTY SAND	

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.)

- ☐ 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 Soils³:

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

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 <input checked="" type="checkbox"/> 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 checked="" type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>		
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>> 12"</u>		
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>> 12"</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 3A
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>FESTUCA PERENNIS</u> <u>95</u> <u>Y</u> <u>FAC</u> 2. <u>HORDEUM MARINUM</u> <u>5</u> <u>N</u> <u>FAC</u> 3. <u>RUMEX CRISPUS</u> <u>41</u> <u>N</u> <u>FAC</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks:				

SOIL

Sampling Point: 3A

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			
0-4"	NO COLOR (ORG)	100					ORGANIC MATTER	
4-6"	BLACK						BLACK MANURE	
6-12"	10YR 4/2	93	2.5YR 4/8	7	C	PL	SILTY SAND	

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.)		Indicators for Problematic Hydric Soils ³ :
<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)		

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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 type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>712"</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>712"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 4
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

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>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: _____ (A) _____ (B)
1. <u>POLYGON MONSPELIENSIS</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = _____
2. <u>RANUNCULUS BIVARIENSIS VAR. TRISEPALUS</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3. <u>ELEOCHARIS MACROSTACHYA</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>GLYCERIA DECLINATA</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>RUMEX CRISPUS</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6. <u>FESTUCA PERENNIS</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
7. <u>HORDEUM MARINUM</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____				___ Dominance Test is >50%
2. _____				___ Prevalence Index is ≤3.0 ¹
_____ = Total Cover				___ 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 <input checked="" type="checkbox"/> No _____
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>25</u>				
Remarks:				

4

[illegible]²Location: PL=Pore Lining, M=Matrix.

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <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) | | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic

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)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input checked="" 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) |

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverline**)
- ___ Sediment Deposits (B2) (**Riverline**)
- ___ Drift Deposits (B3) (**Riverline**)
- ___ 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): 713"

Saturation Present? Yes ☐ No ☒ Depth (inches): >13"
(includes capillary fringe)

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: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 4A
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____																		
2. _____																		
3. _____																		
4. _____																		
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>8</u></td> <td>x 5 = <u>40</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>308</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.08</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>80</u>	x 3 = <u>240</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>8</u>	x 5 = <u>40</u>	Column Totals: <u>100</u> (A)	<u>308</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>80</u>	x 3 = <u>240</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>8</u>	x 5 = <u>40</u>																	
Column Totals: <u>100</u> (A)	<u>308</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>FESTUCA PERENNIS</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>															
2. <u>HORDEUM MARINUM</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
3. <u>GERANIUM DISSECTUM</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
4. <u>FESTUCA MYUROS</u>	<u>2</u>	<u>N</u>	<u>UPL</u>															
5. <u>BROMUS HORDEACEUS</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>POLYPOGON MONSPELIENSIS</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
7. <u>MALVA NEGLECTA</u>	<u><1</u>	<u>N</u>	<u>UPL</u>															
8. _____																		
_____ = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
_____ = Total Cover																		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____																		
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 <input checked="" type="checkbox"/>																		
Remarks:																		

4A

HYDROLOGY

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

Secondary Indicators (2 or more required)

- Field Observations:**

Wetland Hydrology Present? Yes No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carl's Property (VMC1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 5
 Investigator(s): Anna van Zwick; Mike Trebblocc Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

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>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
			= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species _____	x 1 = _____
3. _____				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
			= Total Cover	UPL species _____	x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals:	(A) _____ (B) _____
1. <u>Eleocharis macrostachya</u>	<u>10</u>	<u>N</u>	<u>Obl</u>	Prevalence Index = B/A = _____	
2. <u>Festuca Perennis</u>	<u>80</u>	<u>Y</u>	<u>For</u>		
3. <u>Hordeum marinum</u>	<u>2</u>	<u>N</u>	<u>Fac</u>		
4. <u>Polygala menapiensis</u>	<u>3</u>	<u>N</u>	<u>Facw</u>		
5. _____					
6. _____					
7. _____					
8. _____					
			<u>95</u> = Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. _____				<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
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		
0-5"	10YR 3/2	100						silty sand
5-12"	10YR 4/2	80	2.5YR 4/8	20	C	M		clay sand

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.)		Indicators for Problematic Hydric Soils ³ :
<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)		

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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 type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> — </u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> > 12" </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> > 12" </u> (includes capillary fringe)				Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carli Property (VMC 1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 5a
 Investigator(s): Anna vanZuik; Mike Irvenlood Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____	Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	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) _____
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) _____																	
= Total Cover																		
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: _____) 1. <u>Festuca perennis</u> <u>100</u> <u>Y</u> <u>Fac</u> 2. <u>Hordeum maritimum</u> <u>30</u> <u>N</u> <u>Fac</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																		
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____																		
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		
Remarks:																		

SOIL

Sampling Point: 5a

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		
0-2"	Organic	100					Organic
2-5"	10YR 2/1	100					Loam
5-12"	10YR 4/2	90	2.5YR 3/6	10	C	m	Silty Sand

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.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Vernal Pools (F9)	

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 type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> - </u>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> >12" </u>
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> >12" </u>
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carl's Property (VML1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 6
 Investigator(s): Anna van Zant, Mike Truitt Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

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>2</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>100</u> (A/B)
4. _____	_____	_____	_____		
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
_____ = Total Cover				UPL species _____	x 5 = _____
				Column Totals: _____ (A)	_____ (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = _____	
1. <u>Festuca perennis</u>	<u>80</u>	<u>Y</u>	<u>fac</u>	Hydrophytic Vegetation Indicators:	
2. <u>Hieracium maritimum</u>	<u>20</u>	<u>Y</u>	<u>Fac</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
3. <u>Rumex crispus</u>	<u>1</u>	<u>N</u>	<u>Fac</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
4. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>10</u>					
Remarks:					

Sampling Point: 6

HYDROLOGY

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

THE Aesthetics of Crime and Punishment

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carli Property (VMC 1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 6a
 Investigator(s): Anne van Zuyk, Mike Truelwood Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 <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:	

VEGETATION – Use scientific names of plants.

<p>Tree Stratum (Plot size: _____)</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">1. _____</th> <th style="width:15%;">Absolute % Cover</th> <th style="width:15%;">Dominant Species?</th> <th style="width:10%;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;">_____ = Total Cover</td></tr> </tbody> </table> <p>Sapling/Shrub Stratum (Plot size: _____)</p> <table style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;">_____ = Total Cover</td></tr> </tbody> </table> <p>Herb Stratum (Plot size: _____)</p> <table style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Festuca perennis</u></td><td><u>100</u></td><td><u>Y</u></td><td><u>Fac</u></td></tr> <tr><td>2. <u>Hieracium maritimum</u></td><td><u>20</u></td><td><u>N</u></td><td><u>Fac</u></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;"><u>120</u> = Total Cover</td></tr> </tbody> </table> <p>Woody Vine Stratum (Plot size: _____)</p> <table style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td></tr> <tr><td colspan="4" style="text-align: right;">_____ = Total Cover</td></tr> </tbody> </table> <p>% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____</p>	1. _____	Absolute % Cover	Dominant Species?	Indicator Status	2. _____				3. _____				4. _____				_____ = Total Cover				1. _____				2. _____				3. _____				4. _____				5. _____				_____ = Total Cover				1. <u>Festuca perennis</u>	<u>100</u>	<u>Y</u>	<u>Fac</u>	2. <u>Hieracium maritimum</u>	<u>20</u>	<u>N</u>	<u>Fac</u>	3. _____				4. _____				5. _____				6. _____				7. _____				8. _____				<u>120</u> = Total Cover				1. _____				2. _____				_____ = Total Cover				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>1</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)</p> <p>Prevalence Index worksheet:</p> <table style="width:100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr><td>OBL species _____</td><td>x 1 = _____</td></tr> <tr><td>FACW species _____</td><td>x 2 = _____</td></tr> <tr><td>FAC species _____</td><td>x 3 = _____</td></tr> <tr><td>FACU species _____</td><td>x 4 = _____</td></tr> <tr><td>UPL species _____</td><td>x 5 = _____</td></tr> <tr><td>Column Totals: _____</td><td>(A) _____ (B) _____</td></tr> </tbody> </table> <p>Prevalence Index = B/A = _____</p> <p>Hydrophytic Vegetation Indicators:</p> <p><input checked="" type="checkbox"/> Dominance Test is >50%</p> <p><input type="checkbox"/> Prevalence Index is ≤3.0¹</p> <p><input type="checkbox"/> Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <p>Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____</p>	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) _____
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1. <u>Festuca perennis</u>	<u>100</u>	<u>Y</u>	<u>Fac</u>																																																																																																								
2. <u>Hieracium maritimum</u>	<u>20</u>	<u>N</u>	<u>Fac</u>																																																																																																								
3. _____																																																																																																											
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7. _____																																																																																																											
8. _____																																																																																																											
<u>120</u> = Total Cover																																																																																																											
1. _____																																																																																																											
2. _____																																																																																																											
_____ = Total Cover																																																																																																											
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) _____																																																																																																										
Remarks:																																																																																																											

Sampling Point: C6

HYDROLOGY

Arid Wheat Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 7
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species _____ x 2 = _____ FAC species <u>90</u> x 3 = <u>270</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>103</u> (A) <u>299</u> (B) Prevalence Index = B/A = <u>2.90</u>
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>FESTUCA PERENNIS</u> <u>90</u> <u>Y</u> <u>FAC</u> 2. <u>HORDEUM MARINUM</u> <u>3</u> <u>N</u> <u>FAC</u> 3. <u>ELEOCHARIS MACROSTACHYA</u> <u>5</u> <u>N</u> <u>OBL</u> 4. <u>RUMEX CRISPUS</u> <u>5</u> <u>N</u> <u>FAC</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>25</u>				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks:				

Sampling Point: 7

HYDROLOGY

Wetland Hydrology Indicators:

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 7A
 Investigator(s): A. VAN ZIUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	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.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>FESTUCA PERENNIS</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. <u>HORDEUM MARINUM</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>BROMUS DIANDRUS</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
4. <u>LACTUCA SERRIOLA</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5. <u>GALIUM APARINE</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
6. <u>RUMEX CRISPUS</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
7. <u>GERANIUM DISSECTUM</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
8. _____	_____	_____	_____	
Total Cover: <u>106</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: **7A**

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		
0-4"	ORGANIC						NO COLOR	ORGANIC MATTER
4-10"	10YR 4/2	95	2.5YR 4/8	5	C	PL	CLAY SAND	
10-14"	10YR 4/2	60	2.5YR 3/6	40	C	M	CLAY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- ☐ 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)

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) (Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ 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): >14"
Saturation Present? Yes ☐ No ☒ Depth (inches): >14"
(includes capillary fringe)

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: Carl's Property (VML1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 8
 Investigator(s): Aimee van Zant, Mike Trudgill Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 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.
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
5. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>Eleocharis macrostachya</u>	<u>5</u>	<u>N</u>	<u>Obl</u>	
2. <u>Festuca perennis</u>	<u>30</u>	<u>Y</u>	<u>Fac</u>	Remarks:
3. <u>Hemlock maritima</u>	<u>5</u>	<u>N</u>	<u>Fac</u>	
4. <u>Rumex crispus</u>	<u>20</u>	<u>Y</u>	<u>Fac</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Woody Vine Stratum
8. _____	_____	_____	_____	
Total Cover: <u>60</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>40</u>				

Sampling Point: 8

HYDROLOGY

Arid West – Version 4.1 4/2000

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carl's Property (VMC 1601) City/County: Sacramento Sampling Date: 8/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 8a
 Investigator(s): Anna van Zulk; Mike French Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 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.
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Herb Stratum				
1. <u>Lactuca serriola</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	Remarks:
2. <u>Festuca perennis</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Rumex crispus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4. <u>Hieracium maritimum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>112</u>				Woody Vine Stratum
1. _____				
2. _____				Total Cover: _____
3. _____				
Total Cover: _____				% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____
4. _____				

SOIL

Sampling Point: 8a

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"	Organic							Organic
2-7"	10YR 2/1	99	2.5YR 3/6	1	C	PL		sandy loam
7-14"	10YR 4/2	95	2.5YR 4/8	5	C	M		silty clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- ☐ 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)

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) (Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ 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): 7-14'

Water Table Present? Yes ☐ No ☒ Depth (inches): 7-14'

Saturation Present? Yes ☐ No ☒ Depth (inches): 7-14'

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: Carli Property (VMC1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 9
 Investigator(s): Anna van Zuurk, Mike Kneiblow Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
1. _____																				
2. _____																				
3. _____																				
4. _____																				
Total Cover: _____				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = _____</td> </tr> </table>	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 = _____	
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 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ Total Cover: _____																				
Herb Stratum 1. <u>Rumex crispus</u> <u>90</u> <u>Y</u> <u>Far</u> 2. <u>Festuca perennis</u> <u>10</u> <u>N</u> <u>Far</u> 3. <u>Polygonum aviculare</u> <u>1</u> <u>N</u> <u>Farw</u> 4. <u>Cerastium glomeratum</u> <u>1</u> <u>N</u> <u>UPL</u> 5. _____ 6. _____ 7. _____ 8. _____ Total Cover: <u>102</u>																				
Woody Vine Stratum 1. _____ 2. _____ Total Cover: _____																				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____																				
Remarks:																				

SOIL

Sampling Point: 9

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		
0-14"	10 YR 3/2	100						silty clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histic Sol (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 checked="" 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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

recently filled in ditch with upland soils. rains compacted recently filled canal to create a new depressional feature. soils not from wetlands so did not veg.

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): 7Water Table Present? Yes _____ No ☒ Depth (inches): >14Saturation Present? Yes _____ No ☒ Depth (inches): 714
(includes capillary fringe)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: Carl's Property (VML1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 9a
 Investigator(s): Anna van Zvlic, Mike Trushlood Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____				
Sapling/Shrub Stratum				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.
1. _____				
2. _____				
3. _____				
4. _____				
Herb Stratum				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. <u>FESTUCA PERENNIS</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>RUMEX CRISPUS</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	Remarks:
3. <u>BROMUS HORDEACEOUS</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. <u>CONVOLVULUS ARVENSIS</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
5. <u>TRIFOLIUM OBIUM</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
6. <u>MEDICAGO POLYMORPHA</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
7. <u>HOEDEUM MARINUM</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
8. _____				
Total Cover: <u>92</u>				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

SOIL

Sampling Point: 9A

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		
0-9"	10YR 3/2	100					SILTY CLAY	ROCK HARD

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<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): 79"Saturation Present? Yes _____ No ☒ Depth (inches): 79"
(includes capillary fringe)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: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 10
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>SOIL INUNDATED, STANDING WATER PRESENT</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover: _____				
Herb Stratum				
1. <u>LEMNA MINOR</u>	<u>3</u>	<u>N</u>	<u>OBL</u>	
2. <u>GLYCERIA DECLINATA</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3. <u>ELEOCHARIS MALBOISACHIA</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. <u>RUMEX CRISPUS</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
5. <u>TYPHA SP.</u>	<u>41</u>	<u>N</u>	<u>OBL</u>	
6. <u>CYPERUS ERAGROSTIS</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
7. <u>POLYPOGON MONSPELIENSIS</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
8. _____	_____	_____	_____	
Total Cover: <u>64</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks: _____				

SOIL

Sampling Point: 10

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
---	--

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|--|
| <input type="checkbox"/> Histosol (A1)
<input type="checkbox"/> Histic Epipedon (A2)
<input type="checkbox"/> Black Histic (A3)
<input type="checkbox"/> Hydrogen Sulfide (A4)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)
<input type="checkbox"/> Depleted Below Dark Surface (A11)
<input type="checkbox"/> Thick Dark Surface (A12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)
<input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Vernal Pools (F9) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input checked="" type="checkbox"/> Other (Explain in Remarks) |
|--|---|--|
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present.

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):	
---------------------------------	--

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

AREA INUNDATED, NO SOIL PIT DUG.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
1. <u>Soils</u>	1. <u>Soils</u>	1. <u>Soils</u>
2. <u>Soils</u>	2. <u>Soils</u>	2. <u>Soils</u>
3. <u>Soils</u>	3. <u>Soils</u>	3. <u>Soils</u>
4. <u>Soils</u>	4. <u>Soils</u>	4. <u>Soils</u>
5. <u>Soils</u>	5. <u>Soils</u>	5. <u>Soils</u>
6. <u>Soils</u>	6. <u>Soils</u>	6. <u>Soils</u>
7. <u>Soils</u>	7. <u>Soils</u>	7. <u>Soils</u>
8. <u>Soils</u>	8. <u>Soils</u>	8. <u>Soils</u>
9. <u>Soils</u>	9. <u>Soils</u>	9. <u>Soils</u>
10. <u>Soils</u>	10. <u>Soils</u>	10. <u>Soils</u>
11. <u>Soils</u>	11. <u>Soils</u>	11. <u>Soils</u>
12. <u>Soils</u>	12. <u>Soils</u>	12. <u>Soils</u>
13. <u>Soils</u>	13. <u>Soils</u>	13. <u>Soils</u>
14. <u>Soils</u>	14. <u>Soils</u>	14. <u>Soils</u>
15. <u>Soils</u>	15. <u>Soils</u>	15. <u>Soils</u>
16. <u>Soils</u>	16. <u>Soils</u>	16. <u>Soils</u>
17. <u>Soils</u>	17. <u>Soils</u>	17. <u>Soils</u>
18. <u>Soils</u>	18. <u>Soils</u>	18. <u>Soils</u>
19. <u>Soils</u>	19. <u>Soils</u>	19. <u>Soils</u>
20. <u>Soils</u>	20. <u>Soils</u>	20. <u>Soils</u>
21. <u>Soils</u>	21. <u>Soils</u>	21. <u>Soils</u>
22. <u>Soils</u>	22. <u>Soils</u>	22. <u>Soils</u>
23. <u>Soils</u>	23. <u>Soils</u>	23. <u>Soils</u>
24. <u>Soils</u>	24. <u>Soils</u>	24. <u>Soils</u>
25. <u>Soils</u>	25. <u>Soils</u>	25. <u>Soils</u>
26. <u>Soils</u>	26. <u>Soils</u>	26. <u>Soils</u>
27. <u>Soils</u>	27. <u>Soils</u>	27. <u>Soils</u>
28. <u>Soils</u>	28. <u>Soils</u>	28. <u>Soils</u>
29. <u>Soils</u>	29. <u>Soils</u>	29. <u>Soils</u>
30. <u>Soils</u>	30. <u>Soils</u>	30. <u>Soils</u>
31. <u>Soils</u>	31. <u>Soils</u>	31. <u>Soils</u>
32. <u>Soils</u>	32. <u>Soils</u>	32. <u>Soils</u>
33. <u>Soils</u>	33. <u>Soils</u>	33. <u>Soils</u>
34. <u>Soils</u>	34. <u>Soils</u>	34. <u>Soils</u>
35. <u>Soils</u>	35. <u>Soils</u>	35. <u>Soils</u>
36. <u>Soils</u>	36. <u>Soils</u>	36. <u>Soils</u>
37. <u>Soils</u>	37. <u>Soils</u>	37. <u>Soils</u>
38. <u>Soils</u>	38. <u>Soils</u>	38. <u>Soils</u>
39. <u>Soils</u>	39. <u>Soils</u>	39. <u>Soils</u>
40. <u>Soils</u>	40. <u>Soils</u>	40. <u>Soils</u>
41. <u>Soils</u>	41. <u>Soils</u>	41. <u>Soils</u>
42. <u>Soils</u>	42. <u>Soils</u>	42. <u>Soils</u>
43. <u>Soils</u>	43. <u>Soils</u>	43. <u>Soils</u>
44. <u>Soils</u>	44. <u>Soils</u>	44. <u>Soils</u>
45. <u>Soils</u>	45. <u>Soils</u>	45. <u>Soils</u>
46. <u>Soils</u>	46. <u>Soils</u>	46. <u>Soils</u>
47. <u>Soils</u>	47. <u>Soils</u>	47. <u>Soils</u>
48. <u>Soils</u>	48. <u>Soils</u>	48. <u>Soils</u>
49. <u>Soils</u>	49. <u>Soils</u>	49. <u>Soils</u>
50. <u>Soils</u>	50. <u>Soils</u>	50. <u>Soils</u>
51. <u>Soils</u>	51. <u>Soils</u>	51. <u>Soils</u>
52. <u>Soils</u>	52. <u>Soils</u>	52. <u>Soils</u>
53. <u>Soils</u>	53. <u>Soils</u>	53. <u>Soils</u>
54. <u>Soils</u>	54. <u>Soils</u>	54. <u>Soils</u>
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Primary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine)
1. <u>Water Level</u>	1. <u>Water Level</u>
2. <u>Water Temperature</u>	2. <u>Water Temperature</u>
3. <u>Water Color</u>	3. <u>Water Color</u>
4. <u>Water Odor</u>	4. <u>Water Odor</u>
5. <u>Water Turbidity</u>	5. <u>Water Turbidity</u>
6. <u>Water pH</u>	6. <u>Water pH</u>
7. <u>Water Dissolved Oxygen</u>	7. <u>Water Dissolved Oxygen</u>
8. <u>Water Conductivity</u>	8. <u>Water Conductivity</u>
9. <u>Water Hardness</u>	9. <u>Water Hardness</u>
10. <u>Water Total Solids</u>	10. <u>Water Total Solids</u>
11. <u>Water Total Suspended Solids</u>	11. <u>Water Total Suspended Solids</u>
12. <u>Water Total Dissolved Solids</u>	12. <u>Water Total Dissolved Solids</u>
13. <u>Water Total Hardness</u>	13. <u>Water Total Hardness</u>
14. <u>Water Total Alkalinity</u>	14. <u>Water Total Alkalinity</u>
15. <u>Water Total Acidity</u>	15. <u>Water Total Acidity</u>
16. <u>Water Total Chloride</u>	16. <u>Water Total Chloride</u>
17. <u>Water Total Sulfate</u>	17. <u>Water Total Sulfate</u>
18. <u>Water Total Nitrate</u>	18. <u>Water Total Nitrate</u>
19. <u>Water Total Phosphate</u>	19. <u>Water Total Phosphate</u>
20. <u>Water Total Ammonia</u>	20. <u>Water Total Ammonia</u>
21. <u>Water Total Nitrite</u>	21. <u>Water Total Nitrite</u>
22. <u>Water Total Nitrogen</u>	22. <u>Water Total Nitrogen</u>
23. <u>Water Total Phosphorus</u>	23. <u>Water Total Phosphorus</u>
24. <u>Water Total Carbon</u>	24. <u>Water Total Carbon</u>
25. <u>Water Total Oxygen</u>	25. <u>Water Total Oxygen</u>
26. <u>Water Total Hydrogen</u>	26. <u>Water Total Hydrogen</u>
27. <u>Water Total Sulfur</u>	27. <u>Water Total Sulfur</u>
28. <u>Water Total Chlorine</u>	28. <u>Water Total Chlorine</u>
29. <u>Water Total Fluorine</u>	29. <u>Water Total Fluorine</u>
30. <u>Water Total Iodine</u>	30. <u>Water Total Iodine</u>
31. <u>Water Total Bromine</u>	31. <u>Water Total Bromine</u>
32. <u>Water Total Selenium</u>	32. <u>Water Total Selenium</u>
33. <u>Water Total Cadmium</u>	33. <u>Water Total Cadmium</u>
34. <u>Water Total Lead</u>	34. <u>Water Total Lead</u>
35. <u>Water Total Copper</u>	35. <u>Water Total Copper</u>
36. <u>Water Total Zinc</u>	36. <u>Water Total Zinc</u>
37. <u>Water Total Nickel</u>	37. <u>Water Total Nickel</u>
38. <u>Water Total Manganese</u>	38. <u>Water Total Manganese</u>
39. <u>Water Total Iron</u>	39. <u>Water Total Iron</u>
40. <u>Water Total Aluminum</u>	40. <u>Water Total Aluminum</u>
41. <u>Water Total Silicon</u>	41. <u>Water Total Silicon</u>
42. <u>Water Total Boron</u>	42. <u>Water Total Boron</u>
43. <u>Water Total Magnesium</u>	43. <u>Water Total Magnesium</u>
44. <u>Water Total Calcium</u>	44. <u>Water Total Calcium</u>
45. <u>Water Total Potassium</u>	45. <u>Water Total Potassium</u>
46. <u>Water Total Sodium</u>	46. <u>Water Total Sodium</u>
47. <u>Water Total Barium</u>	47. <u>Water Total Barium</u>
48. <u>Water Total Strontium</u>	48. <u>Water Total Strontium</u>
49. <u>Water Total Yttrium</u>	49. <u>Water Total Yttrium</u>
50. <u>Water Total Zirconium</u>	50. <u>Water Total Zirconium</u>
51. <u>Water Total Niobium</u>	51. <u>Water Total Niobium</u>
52. <u>Water Total Molybdenum</u>	52. <u>Water Total Molybdenum</u>
53. <u>Water Total Technetium</u>	53. <u>Water Total Technetium</u>
54. <u>Water Total Ruthenium</u>	54. <u>Water Total Ruthenium</u>
55. <u>Water Total Rhodium</u>	55. <u>Water Total Rhodium</u>
56. <u>Water Total Palladium</u>	56. <u>Water Total Palladium</u>
57. <u>Water Total Silver</u>	57. <u>Water Total Silver</u>
58. <u>Water Total Gold</u>	58. <u>Water Total Gold</u>
59. <u>Water Total Platinum</u>	59. <u>Water Total Platinum</u>
60. <u>Water Total Iridium</u>	60. <u>Water Total Iridium</u>
61. <u>Water Total Osmium</u>	61. <u>Water Total Osmium</u>
62. <u>Water Total Iodine</u>	62. <u>Water Total Iodine</u>
63. <u>Water Total Tellurium</u>	63. <u>Water Total Tellurium</u>
64. <u>Water Total Selenium</u>	64. <u>Water Total Selenium</u>
65. <u>Water Total Cadmium</u>	65. <u>Water Total Cadmium</u>
66. <u>Water Total Lead</u>	66. <u>Water Total Lead</u>
67. <u>Water Total Copper</u>	67. <u>Water Total Copper</u>
68. <u>Water Total Zinc</u>	68. <u>Water Total Zinc</u>
69. <u>Water Total Nickel</u>	69. <u>Water Total Nickel</u>
70. <u>Water Total Manganese</u>	70. <u>Water Total Manganese</u>
71. <u>Water Total Iron</u>	71. <u>Water Total Iron</u>
72. <u>Water Total Aluminum</u>	72. <u>Water Total Aluminum</u>
73. <u>Water Total Silicon</u>	73. <u>Water Total Silicon</u>
74. <u>Water Total Boron</u>	74. <u>Water Total Boron</u>
75. <u>Water Total Magnesium</u>	75. <u>Water Total Magnesium</u>
76. <u>Water Total Calcium</u>	76. <u>Water Total Calcium</u>
77. <u>Water Total Potassium</u>	77. <u>Water Total Potassium</u>
78. <u>Water Total Sodium</u>	78. <u>Water Total Sodium</u>
79. <u>Water Total Barium</u>	79. <u>Water Total Barium</u>
80. <u>Water Total Strontium</u>	80. <u>Water Total Strontium</u>
81. <u>Water Total Yttrium</u>	81. <u>Water Total Yttrium</u>
82. <u>Water Total Zirconium</u>	82. <u>Water Total Zirconium</u>
83. <u>Water Total Niobium</u>	83. <u>Water Total Niobium</u>
84. <u>Water Total Molybdenum</u>	84. <u>Water Total Molybdenum</u>
85. <u>Water Total Technetium</u>	85. <u>Water Total Technetium</u>
86. <u>Water Total Ruthenium</u>	86. <u>Water Total Ruthenium</u>
87. <u>Water Total Rhodium</u>	87. <u>Water Total Rhodium</u>
88. <u>Water Total Palladium</u>	88. <u>Water Total Palladium</u>
89. <u>Water Total Silver</u>	89. <u>Water Total Silver</u>
90. <u>Water Total Gold</u>	90. <u>Water Total Gold</u>
91. <u>Water Total Platinum</u>	91. <u>Water Total Platinum</u>
92. <u>Water Total Iridium</u>	92. <u>Water Total Iridium</u>
93. <u>Water Total Osmium</u>	93. <u>Water Total Osmium</u>
94. <u>Water Total Iodine</u>	94. <u>Water Total Iodine</u>
95. <u>Water Total Tellurium</u>	

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <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 Plowed Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <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? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

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: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 5/10/17
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 10a
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks: <p style="text-align: center;">See 9a</p>			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																																			
1. _____	_____	_____	_____																																				
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
Total Cover: _____				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	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) _____																					
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) _____																																						
Sapling/Shrub Stratum 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ Total Cover: _____																																							
Herb Stratum <table border="0"> <tr> <td>1. <u>GERANIUM DISSECTUM</u></td> <td><u>20</u></td> <td><u>Y</u></td> <td><u>UPL</u></td> </tr> <tr> <td>2. <u>BROMUS HORDEACEOUS</u></td> <td><u>35</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> </tr> <tr> <td>3. <u>HORDEUM MURINUM</u></td> <td><u>10</u></td> <td><u>N</u></td> <td><u>FACU</u></td> </tr> <tr> <td>4. <u>SILYBUM MARINUM</u></td> <td><u>20</u></td> <td><u>Y</u></td> <td><u>UPL</u></td> </tr> <tr> <td>5. <u>AVENA FATUA</u></td> <td><u>2</u></td> <td><u>N</u></td> <td><u>UPL</u></td> </tr> <tr> <td>6. <u>BROMUS DIANDRUS</u></td> <td><u>2</u></td> <td><u>N</u></td> <td><u>UPL</u></td> </tr> <tr> <td>7. <u>FESTUCA PERENNIS</u></td> <td><u>5</u></td> <td><u>N</u></td> <td><u>FAC</u></td> </tr> <tr> <td>8. <u>CONVOLVULUS ARVENSIS</u></td> <td><u>2</u></td> <td><u>N</u></td> <td><u>UPL</u></td> </tr> <tr> <td colspan="4">Total Cover: <u>96</u></td> </tr> </table>				1. <u>GERANIUM DISSECTUM</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	2. <u>BROMUS HORDEACEOUS</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	3. <u>HORDEUM MURINUM</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	4. <u>SILYBUM MARINUM</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	5. <u>AVENA FATUA</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	6. <u>BROMUS DIANDRUS</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	7. <u>FESTUCA PERENNIS</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	8. <u>CONVOLVULUS ARVENSIS</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	Total Cover: <u>96</u>			
1. <u>GERANIUM DISSECTUM</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>																																				
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Total Cover: <u>96</u>																																							
Woody Vine Stratum 1. _____ 2. _____ Total Cover: _____																																							
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____																																							
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)																																							
1Indicators of hydric soil and wetland hydrology must be present.																																							
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																																							
Remarks:																																							

SOIL

Sampling Point: 10A

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		
0-12"	10 YR 3/2	100					SILTY CLAY	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

SEE 9A.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<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 Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (2 or more required)

<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"/> Thin Muck Surface (C7)
<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 <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): >12"
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): >12"

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

SEE 9A.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 11
 Investigator(s): A. VAN ZUUL, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____
 Hydric Soil Present? Yes ☒ No _____
 Wetland Hydrology Present? Yes ☒ No _____

Is the Sampled Area within a Wetland? Yes ☒ No _____

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Herb Stratum				
1. <u>FESTUCA PERENNIS</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	Remarks:
2. <u>POLYPOGON MONSPELIENSIS</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>RUMEX CRISPUS</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>108</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

SOIL

Sampling Point: 11

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		
0-14"	10YR 3/2	95	5YR 4/6	5	C	M	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <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) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input checked="" type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <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): >14"

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): >14"

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: CARL PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 11A
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: SEE 10A	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>96</u> x 3 = <u>288</u> FACU species <u>4</u> x 4 = <u>16</u> UPL species <u>3</u> x 5 = <u>15</u> Column Totals: <u>103</u> (A) <u>319</u> (B) Prevalence Index = B/A = <u>3.10</u>
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				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.
1. <u>PESTUCA PERENNIS</u>	<u>95</u>	<u>Y</u>	<u>FAC</u>	
2. <u>AVENA FATUA</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
3. <u>HORDEUM MURINUM</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4. <u>BROMUS HORDEACEOUS</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5. <u>LACTUCA SCARIOLA</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6. <u>CONVOLVULUS ARVENSIS</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
7. <u>HORDEUM MARINUM</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
Total Cover: <u>103</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____
Total Cover: _____				
Remarks:				

SOIL

Sampling Point: 11A

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12"	10 YR 3/2	100					SILTY CLAY	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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"/> Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)
<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks: SEE 10A

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<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 Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (2 or more required)

<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"/> Thin Muck Surface (C7)
<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 <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): <u>>12"</u>
Saturation Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): <u>>12"</u>

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks: SEE 10A

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 12
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. <u>FESTUCA PERENNIS</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2. <u>HORDEUM MARINUM</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>AVENA FATUA</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>101</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Sampling Point: 12

HYDROLOGY

Wetland Hydrology Indicators:

Arid West – Version 11.1.2006

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/16/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 13
 Investigator(s): A. VAN ZUUL, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>FESTUCA PERENNIS</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
2. <u>CYPERUS ERAGROSTIS</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>POLYPOGON MONSPELIENSIS</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>ELEOCHARIS MACROSTACHYA</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
5. <u>JUNCUS RUFOUS</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present.
6. <u>RUMEX CRISPUS</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
7. <u>PARENTUCHELLA VISCOSA</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
Total Cover: <u>113</u>				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>10</u>
Total Cover: _____				
Remarks:				

SOIL

Sampling Point: 13

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		
0-12"	10 YR 3/2	100					SILTY CLAY	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- ☐ 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)

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

SIGNIFICANTLY DISTURBED, RECENTLY GRADED

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) (Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ 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): 712"
Saturation Present? Yes _____ No ☒ Depth (inches): 712"
(includes capillary fringe)

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: CARL PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 13A
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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 = _____
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>BROMUS HORDEACEOUS</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>RUMEX CRISPUS</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3. <u>CENTURIA SOLSTITIALIS</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
4. <u>BROMUS DIANDRUS</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
5. <u>SONCHUS ARVENSIS</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
6. <u>AMSIACKIA MENZIESII</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
7. <u>BRASSICA RAPA</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
8. <u>LACTUCA SERRIOLA</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
Total Cover: <u>65</u>				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)
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks:				

SOIL

Sampling Point: 13A

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		
0-12"	10YR 3/2	100					SANDY CLAY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <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) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <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): >12"Saturation Present? Yes _____ No ☒ Depth (inches): >12"
(includes capillary fringe)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: Carli Property (VUL 1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 14
 Investigator(s): Anna Vanzuk; Mike Trueblood Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
1. <u><i>Salix lasiolepis</i></u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
3. _____	_____	_____	_____	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 = _____
4. _____	_____	_____	_____	
Total Cover: <u>15</u>				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u><i>Typha latifolia</i> sp.</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
2. <u><i>Cyperus eragrostis</i></u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
3. <u><i>Polypogon monspeliensis</i></u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
4. <u><i>Eleocharis macrostachya</i></u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>40</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>50</u>				
Remarks:				

SOIL

Sampling Point: 14

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		
0-9"	10R 4/3	100						clay sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|--|
| <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 checked="" 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) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Dredged regularly. Did not use soil criteria.

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input checked="" type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <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): > 9"Saturation Present? Yes _____ No ☒ Depth (inches): > 9"
(includes capillary fringe)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: Carli Property (VMC 1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 14a
 Investigator(s): Anna van Zulk, Mike Trueblood Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>upland data point</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
1. _____																				
2. _____																				
3. _____																				
4. _____																				
Total Cover: _____				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = _____</td> </tr> </table>	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 = _____	
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 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ Total Cover: _____																				
Herb Stratum 1. <u>Erodium botrys</u> <u>60</u> <u>Y</u> <u>FACU</u> 2. <u>Anulva neglecta</u> <u>20</u> <u>Y</u> <u>UPL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ Total Cover: <u>80</u>																				
Woody Vine Stratum 1. _____ 2. _____ Total Cover: _____																				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____																				
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.																				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																				
Remarks: _____																				

SOIL

Sampling Point: 14a

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		
0-12"	10YR 4/3	100						loamy clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<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): 712"Saturation Present? Yes _____ No ☒ Depth (inches): 712"
(includes capillary fringe)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: Carli Property (VMC 1601) City/County: Sacramento Sampling Date: 5/10/17
 Applicant/Owner: Triangle Rock (Vulcan) State: CA Sampling Point: 15
 Investigator(s): Anna van Zulk, Mike Trueblood Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</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				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 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)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>30</u>	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Herb Stratum				
1. <u>Eleocharis macrostachya</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present.
2. <u>Glyceria declinata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Cotula coronopifolia</u>	<u>3</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
4. <u>Festuca perennis</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	Remarks:
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Total Cover: _____
8. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	Remarks:
Woody Vine Stratum				
1. _____	_____	_____	_____	Remarks:
2. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	Remarks:
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>70</u>				

SOIL

Sampling Point: 15

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		
0-4"	10 YR 3/2	100					silty clay
4"	Hardpan						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Hardpan
Depth (inches): 4"Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<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): >4"
 Saturation Present? Yes ☐ No ☒ Depth (inches): >4"
 (includes capillary fringe)

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: CARL PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017

Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 15A

Investigator(s): A. VAN ZUYLE, M. TRUEBLOOD Section, Township, Range: _____

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

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	

Remarks: CORRESPONDING UPLAND DATA POINT

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: _____	_____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____	_____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____	_____ (A/B)
4. _____	_____	_____	_____		
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species <u>101</u>	x 3 = <u>303</u>
5. _____	_____	_____	_____	FACU species <u>8</u>	x 4 = <u>32</u>
_____ = Total Cover				UPL species <u>6</u>	x 5 = <u>30</u>
				Column Totals: <u>115</u> (A)	<u>365</u> (B)
				Prevalence Index = B/A = <u>3.17</u>	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>FESTUCA PERENNIS</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	___ Dominance Test is >50%	
2. <u>HORDEUM MURINUM</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	___ Prevalence Index is ≤3.0 ¹	
3. <u>MEDICAGO POLYMORPHA</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>LACTUCA SPERGIOLA</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>RUMEX CRISPUS</u>	<u>1</u>	<u>N</u>	<u>FAC</u>		
6. <u>BRONUS DIANDRUS</u>	<u>6</u>	<u>N</u>	<u>UPL</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks:

SOIL

Sampling Point: 15A

[illegible]

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 type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u> — </u>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u> >12" </u>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u> >12" </u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 1b
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>EPILOBIUM CILIATUM</u> <u>20</u> <u>Y</u> <u>FACW</u> 2. <u>RUMEX CRISPUS</u> <u>5</u> <u>N</u> <u>FAC</u> 3. <u>POLYPOGON MONSPELIENSIS</u> <u>10</u> <u>Y</u> <u>FACW</u> 4. <u>FESTUCA PERENNIS</u> <u>8</u> <u>N</u> <u>FAC</u> 5. <u>CYPERUS ERAGROSTIS</u> <u>5</u> <u>N</u> <u>FACW</u> 6. <u>ELEOCHARIS MACROSTACHYA</u> <u>2</u> <u>N</u> <u>OBL</u> 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>50</u>				

Remarks:

SOIL

Sampling Point: 16

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		
0-13"	10YR 3/2	95	2.5YR 3/6	5	C	M	SANDY SILTY CLAY	

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.)

Indicators for Problematic Hydric Soils³:

- ☐ 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)

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

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)

- ☐ 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): >13"Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): >13"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: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/16/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 17
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 <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:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: _____)				
1. <u>FESTUCA PERENNIS</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks:				

SOIL

Sampling Point: 17

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		
0-12"	BLACK COMPOST						SILTY 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.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <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) | | |

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 type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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): _____Water Table Present? Yes _____ No ☒ Depth (inches): >12"Saturation Present? Yes _____ No ☒ Depth (inches): >12"
(includes capillary fringe)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: CARLI PROPERTY (JMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 18
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
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>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: _____ (A) _____ (B)
1. <u>POLYPOGON MONSPELIENSIS</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = _____
2. <u>FESTUCA PERENNIS</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>LYTHRUM HYSSOPIFOLIA</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4. <u>HORDEUM MARINUM</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
_____ = Total Cover				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust <u>15</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: 18

[illegible]

HYDROLOGY

Wetland 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 type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>78"</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>78"</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 18A
 Investigator(s): A. VAN ZUUK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>CORRESPONDING UPLAND DATA POINT</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>34</u> x 5 = <u>170</u> Column Totals: <u>114</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>3.68</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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)
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Remarks:
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>VICIA VILLOSA</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
2. <u>FESTUCA PERENNIS</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	
3. <u>HORDEUM MURINUM</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>AVENA FATUA</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
5. <u>CONVOLVULUS ARVENSIS</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>114</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			

SOIL

Sampling Point: 18A

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		
0-1"	ORGANIC MATTER						ORGANIC	
1-10"	10YR 3/3	100					SILTY CLAY 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.)

Indicators for Problematic Hydric Soils³:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <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) | |

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

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 type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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): _____Water Table Present? Yes _____ No ☒ Depth (inches): >10"Saturation Present? Yes _____ No ☒ Depth (inches): >10"
(includes capillary fringe)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: CARLI PROPERTY (VMC 1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 19
 Investigator(s): A. VAN ZUOK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
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: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>PLAGIOBOTHRYS STIPITATUS VAR. MICRANTHUS</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>LYTHRUM HYSSOPIFOLIA</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>RANUNCULUS BONARIENSIS VAR. TRISEPALUS</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
4. <u>HORDEUM MARINUM</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>HYPOCHAERIS GLABRA</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	
6. <u>POLYPOGON MONSPELIENSIS</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
7. <u>FESTUCA PERENNIS</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u> % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 19

[illegible]

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 type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input 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 checked="" 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u> </u>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>710"</u>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>710"</u>
(includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: CARLI PROPERTY (VMC1601) City/County: SACRAMENTO Sampling Date: 05/10/2017
 Applicant/Owner: TRIANGLE ROCK (VULCAN) State: CA Sampling Point: 19A
 Investigator(s): A. VAN ZUIK, M. TRUEBLOOD Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>CORRESPONDING UPLAND DATA POINT.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
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: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				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.
Herb Stratum (Plot size: _____)				
1. <u>TRIFOLIUM HIRTUM</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2. <u>VICIA VILLOSA</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
3. <u>MEDICAGO POLYMORPHA</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
4. <u>ERODIUM BOTRYS</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>BROMUS DIANDRUS</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
6. <u>FESTUCA MYUROS</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>92</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>8</u> % Cover of Biotic Crust _____				
Remarks: _____				

Hydrophytic Vegetation Present? Yes _____ No ☒

SOIL

Sampling Point: 19A

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		
0-11"	10YR 3/4	100					CLAY	

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.)

Indicators for Problematic Hydric Soils³:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <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) | |

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

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 type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input 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): _____Water Table Present? Yes _____ No ☒ Depth (inches): 711"Saturation Present? Yes _____ No ☒ Depth (inches): 711"

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

Remarks:

APPENDIX C

APPROVED JURISDICTIONAL DELINEATION FORM

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APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

Sacramento Aggregates Expansion Project

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: CA County/parish/borough: Sacramento City: Sacramento
Center coordinates of site (lat/long in degree decimal format): Lat. 38°30'1.21" N, Long. 121°15'22.55" W.
Universal Transverse Mercator: 652054.8 (easting), 4262771.2 (northing), Zone 10
Name of nearest waterbody: Laguna Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Sacramento River
Name of watershed or Hydrologic Unit Code (HUC): HUC: 180201630404, California Region / Sacramento Subunit
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- ☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- ☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
☐ Wetlands adjacent to TNWs
☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
☒ Non-RPWs that flow directly or indirectly into TNWs
☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 3385 linear feet: 1-193 width (ft) and/or 0.046 acres.
Wetlands: 1.831 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: **Several man-made ditches were determined to be not jurisdictional since these ditches were excavated in and drain only uplands. Additional man-made basins and depressions containing wetlands were determined to be isolated**

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

(having no connectivity to TNWs or other nexus to interstate waters). Based on SWANCC these features have no value for interstate commerce and are considered not jurisdictional.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

Non-RPW-1 (See attached map) – Non-RPW-1 consists of an unnamed ephemeral ditch that flows south into a wetland adjacent to Laguna Creek.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 33.87 acres

Drainage area: 33.87 acres

Average annual rainfall: 18.51 inches

Average annual snowfall: 0.00 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☒ Tributary flows through 2 tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **10-15** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: n/a.

Identify flow route to TNW⁵: Flows south then east 0.4 mile into Laguna Creek, then flows southwest then northwest 20 miles to Morrison Creek, then flows southwest 3 miles to the Sacramento River.
Tributary stream order, if known: Third.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Tributary is channelized and serves as a drainage ditch during and after storm events.

Tributary properties with respect to top of bank (estimate):

Average width: 1 foot
Average depth: <1 feet
Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

<input type="checkbox"/> Silts	<input type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input checked="" type="checkbox"/> Vegetation. Type/% cover: Italian ryegrass (<i>Festuca perennis</i>) dominant, 90-95% relative cover, >100% absolute cover.	
<input type="checkbox"/> Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Banks appear to be stable.

Presence of run/riffle/pool complexes. Explain: Flows tend to move slowly through the study area.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Tributary collects surface runoff only; conveys ephemeral flows.

Other information on duration and volume: n/a.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☒ Bed and banks

☒ OHWM⁶ (check all indicators that apply):

<input type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> destruction of terrestrial vegetation
<input type="checkbox"/> shelving	<input type="checkbox"/> the presence of wrack line
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> scour
<input type="checkbox"/> sediment deposition	<input checked="" type="checkbox"/> multiple observed or predicted flow events
<input type="checkbox"/> water staining	<input type="checkbox"/> abrupt change in plant community
<input type="checkbox"/> other (list):	

☐ Discontinuous OHWM.⁷ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input type="checkbox"/> High Tide Line indicated by:	<input type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷ Ibid.

- ☐ tidal gauges
☐ other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
 Explain: no water observed.
 Identify specific pollutants, if known: unknown.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

None

Non-RPW-2 (See attached map) – Non-RPW-2 consists of an unnamed ephemeral ditch that flows southwest into Non-RPW-1.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 18.68 **acres**
 Drainage area: 18.68 **acres**
 Average annual rainfall: 18.51 inches
 Average annual snowfall: 0.00 inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- ☐ Tributary flows directly into TNW.
☒ Tributary flows through **2** tributary before entering TNW.

Project waters are **20-25** river miles from TNW.
 Project waters are **1 (or less)** river miles from RPW.
 Project waters are **10-15** aerial (straight) miles from TNW.
 Project waters are **1 (or less)** aerial (straight) miles from RPW.
 Project waters cross or serve as state boundaries. Explain: n/a.

Identify flow route to TNW⁸: Flows west into Non-RPW-1 in the study area, then flows south then east 0.4 mile into Laguna Creek, then flows southwest then northwest 20 miles to Morrison Creek, then flows southwest 3 miles to the Sacramento River.

Tributary stream order, if known: Third.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Tributary is channelized and serves as a drainage ditch during and after storm events.

Tributary properties with respect to top of bank (estimate):

Average width: 1 feet
 Average depth: <1 feet
 Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

- ☒ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☒ Vegetation. Type/% cover: Italian ryegrass (*Festuca perennis*) dominant, 90% relative

cover, >100% absolute cover.

⁸ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Banks appear to be stable.

Presence of run/riffle/pool complexes. Explain: Flows tend to move slowly through the study area.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 2 %

(c) **Flow:**

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Tributary collects surface runoff only; conveys ephemeral flows.

Other information on duration and volume: n/a.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☒ Bed and banks

☒ OHWM⁹ (check all indicators that apply):

☐ clear, natural line impressed on the bank

☒ changes in the character of soil

☐ shelving

☐ vegetation matted down, bent, or absent

☐ leaf litter disturbed or washed away

☐ sediment deposition

☐ water staining

☐ other (list):

☐ the presence of litter and debris

☐ destruction of terrestrial vegetation

☐ the presence of wrack line

☐ sediment sorting

☐ scour

☒ multiple observed or predicted flow events

☐ abrupt change in plant community

☐ Discontinuous OHWM.¹⁰ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:

☐ oil or scum line along shore objects

☐ fine shell or debris deposits (foreshore)

☐ physical markings/characteristics

☐ tidal gauges

☐ other (list):

☐ Mean High Water Mark indicated by:

☐ survey to available datum;

☐ physical markings;

☐ vegetation lines/changes in vegetation types.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: no water observed.

Identify specific pollutants, if known: Unknown.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

☐ Riparian corridor. Characteristics (type, average width): .

☐ Wetland fringe. Characteristics: .

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☐ Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

All wetland(s) being considered in the cumulative analysis: **3**

Approximately (1.715) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Yes

Size (in acres)

1.589

Directly abuts? (Y/N)

Size (in acres)

⁹A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

¹⁰Ibid.

No	0.005
No	0.121

Summarize overall biological, chemical and physical functions being performed: Seasonal wetland directly abutting Non-RPW-1. Tributary connectivity via ephemeral ditch. Small wetlands to the north do not directly abut and are connected via sheetflow (no wetlands in sheetflow area).

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: Non-RPW-1 is a ditch with seasonal flows into wetlands adjacent to Laguna Creek. Non-RPW-1 has the capacity to convey pollutants to TNWs, thus providing a significant nexus.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: Non-RPW-2 consists of a ditch with seasonal flows into Non-RPW-1 and its adjacent wetlands. Non-RPW-2 has the capacity to convey pollutants to TNWs, thus providing a significant nexus.
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: n/a.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

☐ TNWs: linear feet width (ft), Or, acres.
☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: All RPWs in the study area have either intermittent "seasonal" flows or ephemeral flows with areas of seasonal ponding.

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters:
☐ Other non-wetland waters: .

Identify type(s) of waters: .

3. Non-RPWs¹¹ that flow directly or indirectly into TNWs.

- ☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☒ Tributary waters: **Non-RPW-1: 1,690** linear feet **1 - 24** width (ft).
Non-RPW-2: 1,052 linear feet **1 - 33** width (ft).

- ☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
- ☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: .

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- ☒ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: **1.832** acres.

7. Impoundments of jurisdictional waters.¹²

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹³

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

¹¹See Footnote # 3.

¹²To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹³Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
- ☒ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **The isolated wetlands are within or adjacent to non-RPWs that were excavated in and drain only uplands, and have no connection to TNWs.**
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☒ Other non-wetland waters: 1.057 acres. List type of aquatic resource: Man-made water retention basin.
- ☒ Wetlands: 0.077 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☒ Other non-wetland waters: 1.114 acres. List type of aquatic resource: Man-made ditch and basin created in and draining only uplands without direct or indirect connection to a TNW.
- ☒ Wetlands: 0.867 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas: .
- ☐ USGS NHD data.
- ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Carmichael and Elk Grove, 1:24,000.
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Sacramento County.
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): NAIP (6/2016).
- or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPENDIX D

REPRESENTATIVE PHOTOS

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Data Point 1



Data Point 1a



Data Point 2



Data Point 2a

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 3



Data Point 3a



Data Point 4



Data Point 4a

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 5



Data Point 5a



Data Point 6



Data Point 6a

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 7



Data Point 7a



Data Point 8



Data Point 8a

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 9



Data Point 10



Data Point 11



Data Point 11a

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 12



Data Point 13



Data Point 13a



Data Point 14

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 14a



Data Point 15



Data Point 16



Data Point 18

LSA

FIGURE 5
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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California



Data Point 18a



Data Point 19



Data Point 19a

LSA

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Sacramento Aggregates Expansion Site
City of Sacramento, Sacramento County, California