Jurisdictional Delineation Report for the Mace Ranch Innovation Center Project

Yolo County, CA

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I. INTRODUCTION

A. Purpose

Sycamore Environmental Consultants, Inc., conducted a jurisdictional delineation of the Mace Ranch Innovation Center Project study area (PSA) in Yolo County, CA. The purpose of the delineation was to identify wetlands and waters in the PSA. Jurisdictional delineations are preliminary until verified by the U.S. Army Corps of Engineers (Corps).

B. Project Location

The 263.09-ac PSA is located east of Mace Blvd., north of Interstate 80, east of the City of Davis, CA, in the Central Valley. The PSA is on the Davis USGS topographic quad (T8N, R2E, Sections 1 & 12 and T8N, R3E, Sections 6 & 7, Mt. Diablo Base & Meridian; Figure 1) and is in the Lower Sacramento Hydrologic Unit (Hydrologic Unit Code 18020163). The geographic coordinates of the PSA are 38.56085° north, 121.689075° west (WGS84), and the UTM coordinates are 614,216 meters east, 4,268,860 meters north, Zone 10N (WGS84). Figure 2 is a 2 February 2012 aerial photo of the PSA and surrounding area.

To access the PSA from Sacramento, take Interstate 80 west approximately 11 mi to the Mace Blvd exit in Davis. Exit and turn right (north). The PSA is located northeast of the first traffic light intersection (Mace Blvd and 2nd Street), approximately 0.2 mi north of Interstate 80.

C. Applicant

Yolo 101 JV, c/o The Buzz Oates Group of Companies 8615 Elder Creek Road Sacramento, CA 95828 916/ 379-3838 Contact: Alisha Olson, Development Project Manager

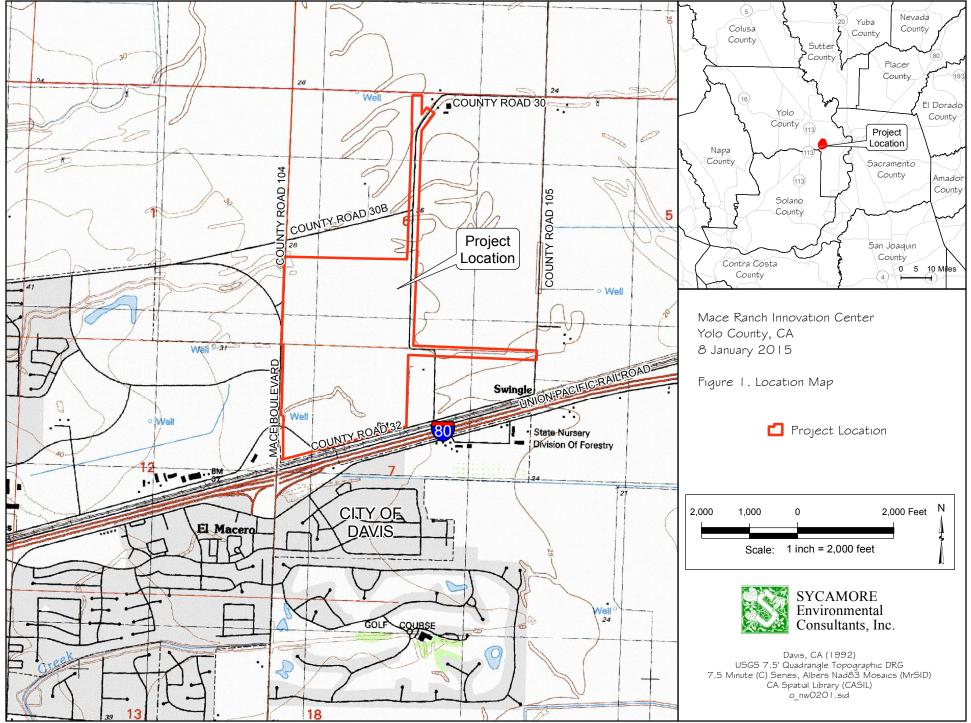
D. Project Description

Yolo 101 JV, "the Applicant," is seeking to develop an innovation and technology park known as the Mace Ranch Innovation Center (MRIC; the "Project"). The Project is located immediately east of the City of Davis city limits, near the "Mace Curve," in Yolo County, approximately 2.5 mi east of downtown Davis (see Figure 1). Regional access to the Project site is provided by the Interstate 80/Mace Blvd interchange, located southwest of the Project site. The MRIC will be an area where leading-edge technology institutions cluster and connect with start-ups, businesses incubators, and accelerators as well as the University of California, Davis. The MRIC will offer a mix of building types and uses including office, research and development, prototyping, light manufacturing, flex space and support retail. The Project will provide for construction of approximately 2.6 million square feet of industrial research office and development space, of which there may be up to 260,000 square feet (10%) of supportive commercial. The Project is proximate to a Yolo Bus stop at the park-and-ride lot, from which landscaped pedestrian connection will be improved to the site and its primary north-south pedestrian promenade.

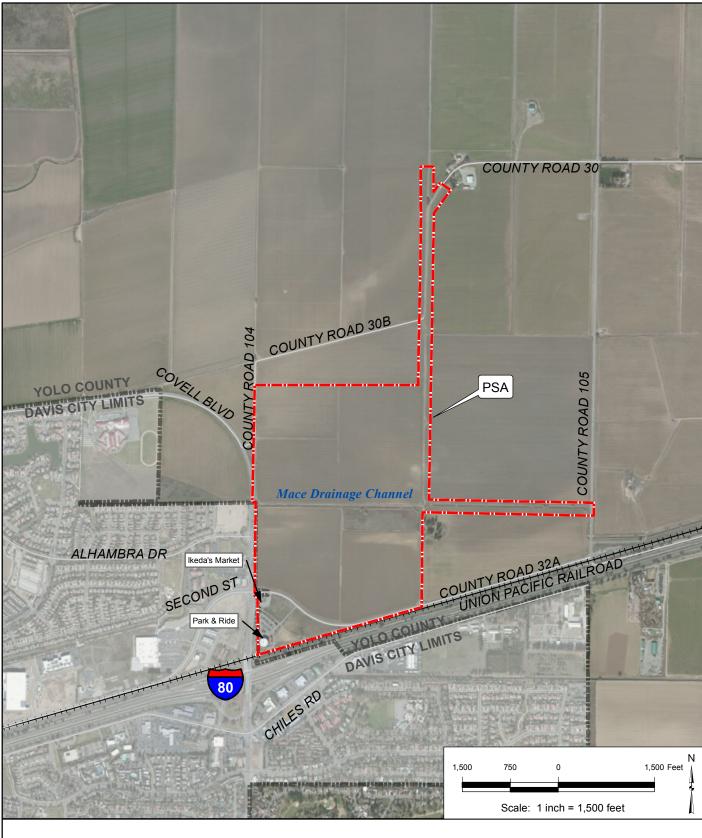
Offsite, two alternative sewer line connections are being evaluated: one which extends from the northeast side of the site, northward approximately 0.6 mi, along Road 104, and another which extends from the east side of the site, eastward approximately 0.5 mi, along a farm road, to Road 105.

The 263.09-ac Project Study Area (PSA) is larger than the 228-ac Project site because it includes the offsite sewer line connection alternatives. The PSA consists of:

- The MRIC site (212 ac) north of CR 32A, identified by Assessor's Parcel Numbers (APNs) 033-630-009; 033-650-009, and -026, currently in row crop agriculture,
- The Annexation Area (16 ac) area south of CR 32A consisting of APNs 033-630-011 (Ikeda's Market), 033-630-006 (a City-owned water tank and Caltrans District 3 Park-and-Ride lot), and 033-630-012 (agricultural uses, currently fallow). The Annexation Area is included in the Project to avoid creation of County "Island" property.
- A buffer around two proposed offsite sewer line connection alternatives located north and east of the MRIC site respectively. The eastern sewer line alternative crosses APN 033-290-04 (row crop agriculture). The northern sewer line alternative crosses APN 033-290-02, -04, -82, and -83; 033-650-027; and 042-130-03 (all in row crop agriculture).



⁴⁰⁸⁷MaceInnovation DelinFig1LocationMap.mx



Mace Ranch Innovation Center Yolo County, CA 8 January 2015

Project Study Area (PSA)



Aenal Photograph: 2 February 2010 US-CA-Sacramento, UC-G Microsoft Imagery ESRI World Imagery Arcmap Service Layer

Figure 2. Aerial Photograph

II. STUDY METHODS

A. Data Sources

Table 1 is a list of data sources used for report preparation and itemized by the Corps and EPA (2007) as supporting data for jurisdictional determinations.

Table 1.	Data Sources
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Data Requested	Source
Maps, plans, plots or plat submitted by or on behalf of the applicant	Figures 1-4
Data sheets prepared/submitted by or on behalf of the applicant	Appendix A
Corps navigable waters study	Corps (2014)
U.S. Geological Survey Hydrologic Atlas.1. USGS NHD data2. USGS 8 and 12 digit HUC maps	Lower Sacramento (18020163) Tule Canal-Toe Drain (180201630302)
U.S. Geological Survey map(s)	Davis USGS quad (photo revised 1981; 1:24,000) And others (1907-1992) available on USGS Historical Topographic Map Explorer
USDA Natural Resources Conservation Service Soil Survey	NRCS (1972), NRCS (2014)
National Wetlands Inventory map(s)	USFWS (2014, 1990)
State/Local wetland inventory map(s)	None known
FEMA/FIRM maps.	Yolo County, CA and Unincorporated Areas; FEMA Map Numbers 06113C0604 G , 06113C0610 G, 06113C0612 G, 06113C0620 G; Panels 604 of 785, 610 of 785, 612 of 785, 620 of 785 Effective Date: 18 June 2010
100-year Floodplain Elevation is: (e.g.,	Zone X: Areas outside the 0.2% annual chance
North American Vertical Datum of 1988). Photographs: 1. Aerial (Name & Date) 2. Other (Name & Date)	floodplain Figure 2. ESRI ArcGIS Basemap Service Layer: Image dated 2 February 2012. Reference aerial photographs from Google Earth: Dated 16 June 1993 to present. Reference aerial photograph reproductions, from Ramcon (2003): Dated 1937, 1952, 1964, 1971, 1984, 1993.
Previous determination(s). File no. and date of response letter	None known

B. Survey Dates and Personnel

A reconnaissance survey was conducted by Mike Bower, M.S., PWS #2230, on 7 October 2014. Fieldwork for the jurisdictional delineation was conducted by Mr. Bower and Noosheen Pouya on 10 December 2014. A second reconnaissance survey was conducted by Chuck Hughes, M.S., PWS #2029, on 23 December 2014.

C. Survey Methods

This jurisdictional delineation report has been prepared in accordance with the Sacramento District minimum standards (Corps 2001), U.S. Army Corps of Engineers Wetland Delineation Manual (Corps 1987), Regulatory Guidance Letter 05-05 (Corps 2005), South Pacific District Procedures for Irrigated Lands (Corps 2012), and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Supplement; Corps 2008a). Regional supplements are intended to bring the Corps Manual (Corps 1987) up to date with current knowledge and practice in specific regions. The Arid West Supplement is applicable to the PSA because it is located in California's Central Valley, which experiences long, hot summers typical of Mediterranean California (Corps 2008a). All wetland and water features were identified and mapped. Hydrophytic classifications of plants were determined from the U.S. Fish and Wildlife Service national list of plant species that occur in wetlands (Lichvar, et al. 2014). Plant nomenclature follows Baldwin et al., ed. (2012).

D. Jurisdictional Data

The jurisdictional delineation was conducted using the Routine On-Site Determination Method (Corps 1987). Jurisdictional data were recorded using the Wetland Determination Data Form for the Arid West Region (Corps 2008a). Soil, vegetation, and hydrology data were recorded at the data points. Plant species were identified by Mike Bower. Wetland data sheets are in Appendix A. Photographs are in Appendix B. Appendix C is a list of plant species recorded at the data points.

E. Mapping and Calculation of Acreages

Features observed in the PSA were mapped using a Trimble Geo-XT sub-meter accurate global positioning system (GPS). The GPS data were exported to ArcMap and Google Earth, where feature boundaries were completed. Acreages were calculated using ESRI ArcMap functions.

F. Definitions

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency regulate the discharge of dredge and fill material into "waters of the United States" under Section 404 of the Clean Water Act (33 U.S.C. 1344). The Corps issues permits for certain dredge and fill activities in waters of the U.S. pursuant to the regulations in 33 CFR 320-330. The lateral limits of jurisdiction in those waters may be divided into three categories. The categories include the territorial seas, tidal waters, and non-tidal waters (see 33 CFR 328.4 (a), (b), and (c), respectively). The term "waters of the U.S." is defined at 33 CFR 328.3(a) as:

- 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 intrastate 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 United States under the definition;
- 5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
- 6. The territorial seas;

- 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.
- 8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

The term "adjacent" is defined at 33 CFR 328.3(c):

The term *adjacent* means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."

The limits of jurisdiction are identified in 33 CFR 328.4 as:

- a. Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)
- b. Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:
 - 1. Extends to the high tide line, or
 - 2. When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.
- c. Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:
 - 1. In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
 - 2. When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
 - 3. When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

The term "ordinary high water mark" is defined at 33 CFR 328.3(e):

The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Wetlands, as defined by the Corps for regulatory purposes, are identified using a three-parameter test that considers whether hydrophytic vegetation, hydric soils, and hydrology are present (Corps 1987). Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3, 40 CFR 230.3). Wetlands also include less conspicuous wetland types such as vernal pools and other seasonal wetlands.

An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow. An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow (66 FR 42099).

III. SETTING

The PSA is located at an urban/rural interface, on the east side of the City of Davis, CA, within the unincorporated area of Yolo County, in an agricultural area in California's Central Valley. Upland row crops and agricultural ditches for irrigation and drainage are present in the surrounding, unincorporated area. The PSA is at the northeast corner of the intersection of Mace Boulevard and 2nd Street, bordered to the west by Mace Boulevard, and across the street from existing commercial uses. The Union Pacific Railroad and Interstate-80 are located to the south, and agricultural lands protected by a permanent conservation easement surround the PSA to the north and east. Tall, dense, and dry weed grasses occur along the perimeter of the MRIC site and along a City drainage ditch that runs from west to east through the central portion of the MRIC site.

A. Topography

Elevation in the PSA ranges from approximately 20 to 30 ft above sea level. The PSA is essentially flat with the exception of the Mace Drainage Channel (MDC), which flows west to east under Mace Blvd and across the center of the PSA. A roughly 5-ft deep (relative to earthen basin walls) detention basin occurs just south of the MDC along the eastern boundary of the PSA.

B. Existing Field Conditions

Field work for the jurisdictional delineation was conducted on 10 December 2014. Hydrologic observations were also made on 7 October 2014 and 23 December 2014. Precipitation in California is typically reported for the period from 1 July through 30 June of the next calendar year. Precipitation recorded from 1 July 2014 through 7 October, 10 December, and 23 December 2014 was 107%, 124%, and 190% of normal, respectively, according to observed daily precipitation and historical averages for the same periods (Sacramento Executive Airport Gauge; NOAA 2014). The PSA had wetter than average hydrologic conditions during the delineation.

Drought conditions were present during the preceding (2013-2014) water year, but the drought was unlikely to have influenced conditions during delineation fieldwork. Vegetation data was based on new growth from the 2014-2015 growing season (new seedlings and resprouting perennial plants, a function primarily of precipitation received after 1 July 2014). Hydrologic conditions were strongly influenced by recent major rains and not by the lack of rain that was observed 6-18 months prior. Hydric soils are a result of many years of periodic saturation and persist through periods of drought.

C. Vegetation

Most of the PSA consists of tilled upland row crop agriculture. No vegetation was present in recently tilled areas during fieldwork. Roadsides and field edges are dominated by ruderal weeds including mustard (*Brassica* sp.), Russian thistle (*Salsola tragus*), yellow-star thistle (*Centaurea solstitialis*), field bindweed (*Convolvulus arvensis*), and perennial pepperweed (*Lepidium latifolium*). A few trees approximately 30-60 ft tall occur in the detention basin and along the MDC. Vegetation associated with the MDC is described in Section IV.C.1.

D. Existing Level of Disturbance

The vast majority of the PSA has experienced recent soil disturbance due to typical agricultural operations, including tilling. Unpaved agricultural access roads travel along the Mace Drainage Channel's north side, along agricultural field edges, and through fallow fields located south of Road 32A. Mace Blvd, Road 32A and Road 104 are paved roads in or adjacent to the PSA. The Mace Drainage Channel, the detention basin, minor irrigation ditches, and minor roadside ditches are all man-made features that have disturbed the soil in the PSA.

E. Soils

Soil pits were dug to observe the chroma, texture, degree of saturation, and other characteristics. Mapped soil units in the PSA are Capay Silty Clay Loam, 0 to 1 Percent Slopes; Marvin Silty Clay Loam, 0 to 1 Percent Slopes; Sycamore Silt Loam, Drained, 0 to 1 Percent Slopes; Sycamore Complex, Drained, 0 to 1 Percent Slopes; Tyndall Very Fine Sandy Loam, Drained, 0 to 1 Percent Slopes; Willows Clay, 0 to 1 Percent Slopes; and Willows Clay, Alkali, Drained, 0 to 1 Percent Slopes (Figure 3; NRCS 2006). The following description is summarized from NRCS (2006). Reported colors are for moist soil.

Capay Silty Clay Loam, 0 to 1 Percent Slopes:

These soils occur on alluvial fans, alluvial flats, interfan basins, and basin rims. They formed in moderately fine and fine textured alluvium from mostly sandstone and shale. A typical profile is very hard, very firm, sticky, very plastic very dark grayish brown clay from 0 to 21 inches; very hard, very firm, sticky, very plastic dark brown clay from 21 to 32 inches; and hard, firm, sticky, very plastic yellowish brown clay from 32 to 62 inches. This soil is slightly acid from 0 to 5 inches, neutral from 5 to 21 inches, and moderately alkaline from 21 to 62 inches. Permeability is slow to very slow. Runoff is negligible to high.

Marvin Silty Clay Loam, 0 to 1 Percent Slopes:

These soils occur on nearly level flood plains at elevations of 10 to 100 ft under annual grasses and forbs. They formed in fine textured alluvium from mixed sources. A typical profile is hard, friable, slightly sticky, plastic, very dark grayish brown silty clay loam from 0 to 13 inches; very hard, fium, sticky, plastic dark to very dark grayish brown heavy silty clay loam or silty clay from 13 to 42 inches; and hard, friable, sticky, plastic, dark brown silty clay loam from 42 to 60 inches. This soil is neutral to slightly acidic from 0 to 13 inches, and mildly alkaline from 13 to 60 inches. Permeability is slow. Runoff is slow.

Sycamore Silt Loam and Sycamore Complex, Drained, 0 to 1 Percent Slopes:

These soils occur on nearly level flood plains at elevations of 10 to 100 ft. They formed in in mixed sedimentary alluvium. A typical profile is hard, friable, sticky, plastic very dark grayish brown silty clay loam from 0 to 14 inches; slightly hard, friable, slightly sticky, slightly plastic dark grayish brown silt loam from 14 to 42 inches; and slightly hard, friable, slightly sticky, slightly plastic pale brown loam from 42 to 60 inches. This soil is slightly acid from 0 to 14 inches, and mildly to moderately alkaline from 14-60 inches. Permeability is moderate to moderately slow. Runoff is slow to very slow.

Tyndall Very Fine Sandy Loam, Drained, 0 to 1 Percent Slopes:

These soils occur on nearly level alluvial fans at elevations of 0 to 70 ft. They formed in sedimentary alluvium low in clay. A typical profile is soft, very friable, slightly sticky, slightly plastic dark to very dark grayish brown heavy very fine sandy loam to very fine sandy loam from 0 to 24 inches; soft, very friable, slightly sticky, slightly plastic light brownish gray to olive fine to very fine sandy loam from 24 to 46 inches; soft, friable, slightly sticky, slightly plastic dark grayish brown to pale olive sandy loam to very fine sandy loam from 46 to 52 inches. This soil is slightly to moderately alkaline from 0 to 41 inches, and strongly alkaline from 41-52 inches. Permeability is moderately rapid. Runoff is slow. The use of levees and other artificial means have improved natural drainage.

Willows Clay, and Willows Clay, Alkali, Drained, 0 to 1 Percent Slopes:

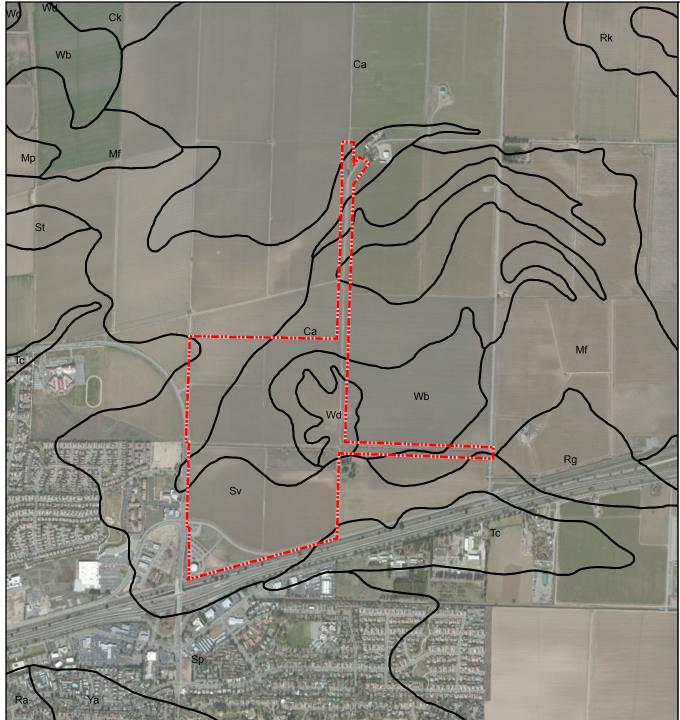
These soils occur on nearly level basins in intermountain valleys and large valleys at elevations of 20 feet to as much as 1,700ft. They formed in fine-textured mixed alluvium. A typical profile is extremely to very hard, very firm, sticky, very plastic very dark gray clay from 0 to 38 inches; and hard to very hard, very firm, sticky and very plastic olive gray clay from 38 to 72 inches. This soil is neutral from 0 to 4 inches, slightly alkaline from 4 to 13 inches, and strongly alkaline from 13 to 72 inches. Permeability is very slow. Runoff is slow.

Sycamore Silt Loam, Sycamore Complex (drained), Willows Clay, and Willows Clay (Alkali, Drained) are classified as hydric soils by NRCS (2012). Capay Silty Clay, Marvin Silty Clay Loam, Tyndall Very Fine Sandy Loam (Drained), are not hydric soils, but may have hydric soil inclusions (NRCS 2012).

F. National Wetlands Inventory Map

The online NWI map (USFWS 2014) does not identify any wetlands or waters in the PSA (USFWS 2014). The Mace Drainage Channel is not identified on either NWI map (USFWS 1990, 2014).

The 1990 National Wetlands Inventory (NWI) map identifies an isolated feature in the southwest corner of the PSA, north of County Road 32A (USFWS 1990), which is no longer present. The 1,850 ft long palustrine, emergent, seasonally flooded wetland (PEMC) occurred entirely on APN 033-630-009. No other wetland or drainage features are shown nearby on the NWI map. See discussion of Mace Drainage Channel for additional discussion of this isolated feature.



Mace Ranch Innovation Center Yolo County, CA 8 January 2015				
Figure	e 3. Soils Map			
	Project Study Area (PSA)Soil Boundary			
<u>Soil 1</u>	ypes:			
Ca	Capay silty clay, O to 1 percent slopes			
Mf	Marvin silty clay loam, O to T percent slopes			
Sp	Sycamore sılt loam, draıned, O to T percent slopes			
Sv	Sycamore complex, drained, O to 1 percent slopes			
Тс	Tyndall very fine sandy loam, draine O to T percent slopes	зd		
Wb	Willows clay O to 1 percent slopes			
Wd	Willows clay, alkalı, drained O to T percent slopes			
1,500	0 1,500 Feet N			
	Scale: 1 inch = 1,667 feet			
H	Soil Survey Geographic (SSURGO) Yolo County, California (27 February 2007) ydric Soils National List (March 2014), USDA NRCS	ò		
	Aerial Photograph: 2 February 2012 US-CA-Sacramento, UC-G Microsoft Imagery ESRI World Imagery Arcmap Service Layer			

IV. WETLANDS AND WATERS

On 2 December 2008, the Corps and EPA issued a memorandum providing guidance on implementation of the Supreme Court's decision in the consolidated cases of *Rapanos v. United States and Carabell v. United States* (Corps and EPA 2008). An evaluation of features relative to their potential jurisdiction under Section 404 of the Clean Water Act (33 U.S.C. 1344) in light of the December 2008 Rapanos guidance is in Section V.

A. Waters

There are no potentially jurisdictional waters in the PSA.

B. Wetlands

There are no potentially jurisdictional wetlands in the PSA.

C. Ditches

1. Mace Drainage Channel

The Mace Drainage Channel (MDC) is a storm water drainage ditch that transports urban runoff from the Mace Ranch Drainage Basin in the City of Davis east through the center of the PSA, to the Railroad Channel, which drains to the Yolo Bypass approximately 2.5 air miles east of the PSA. The Mace Ranch Drainage Basin and the MDC are shown on the City's stormwater drainage map (City of Davis 2011). The MDC is maintained by the City. The portion of the MDC in the PSA occupies 1.66 acres, has a total length of 5,175 ft, and has an average width of 13.9 ft (Figure 4; Appendix B, Photos 7-9, 15-16).

Within the PSA, the MDC has been excavated in uplands. Based on the historical aerial photos, from 1937, 1952, 1964, 1971, 1984 (Ramcon 2003), many aerial photos from 1993 to present (Google Earth 2014), and historic USGS topographic maps from 1907 to 1992, the MDC is not part of a realigned natural drainage. The MDC was historically an agricultural irrigation ditch that was widened and improved for storm drainage in approximately 1992.

<u>Hydrology</u>: The watershed for the portion of the MDC in the PSA is about 730 ac and is entirely within the City of Davis, in areas dominated by urban development (Watermark Engineering, Inc. 2014; City of Davis 2011; PMC 2008). Hydrology for the portion of the MDC in the PSA is provided by stormwater and residential/ commercial irrigation runoff from within the City of Davis. Based on drainage maps (City of Davis 2011; PMC 2008), aerial photographs (Ramcon 2003; Google Earth 2014), and field inspection, there are no groundwater sources and no natural channel realignments associated with the MDC in or upstream of the PSA. No ditches or channels drain to the MDC on the MRIC site. A small irrigation ditch along the west side of Road 105 drains to the MDC at the eastern edge of the PSA, near Road 105. Agricultural irrigation runoff is not a substantial source of hydrology for the portion of the MDC in the PSA.

The MDC enters the PSA through a double culvert under Mace Blvd, along the western edge of the PSA (Appendix B, Photo 7). West of Mace Blvd, the MDC is culverted for approximately 1,000 ft. Farther upstream, the channel is open. Within the PSA, the MDC is straight. There is one culvert crossing in the MRIC site. At the eastern edge of the MRIC site, the MDC passes under a dirt farm road through one or two culverts. The MDC passes under two arch culvert crossings approximately

130 ft and 530 ft east of the MRIC site, along the eastern sewer alignment alternative. From the east side of the MRIC site, the MDC flows ± 1.1 mi to the Railroad Channel, which then flows ± 1.5 mi to the Yolo Bypass. The Railroad Channel drains through a 170-ft wide levee into the Yolo Bypass through a box culvert with a one-way metal flap gate. The following hydrological observations of MDC were made during fieldwork:

- On 7 October 2014, the MDC was dry except for 0-12 inches of standing water in the western half of the MRIC site. The channel was dry in the center of the MRIC site and to the east along the eastern sewer line alternative. At the Yolo Bypass, the Railroad Channel was dry.
- On 10 December 2014, after 3.5 inches of rain in the preceding 12 days, the MDC was dry except for 0-12 inches of standing water in the western half of the MRIC site. The channel was dry in the center of the MRIC site and to the east along the eastern sewer line alternative. Downstream and east of the PSA, the channel was dry in all portions visible from Road 105. The only water observed in the MDC was in the western half of the MRIC site, near Mace Blvd.
- On 23 December 2014, after additional major rain events, the MDC was dry except for 0-16 inches of standing water in the western half of the MRIC site (deeper than on 10 December because some debris was obstructing drainage). The only water observed in the MDC was in the western half of the MRIC site, near Mace Blvd.
- In May 2014, based on Google Street View photos, the portions of the MDC visible from Road 105 (between the PSA and the Yolo Bypass), were dry.
- In May 2012, based on Google Street View photos, the portions of the MDC visible from Road 105 (between the PSA and the Yolo Bypass), were dry.

Hydrology of the portion of the MDC in the PSA is artificial and ephemeral. Based on drainage maps, aerial photographs, and field observations, the portion of the MDC in the PSA is anticipated to flow only during and immediately after precipitation events and in association with artificial input due to urban irrigation or other urban runoff within the City of Davis.

At the eastern edge of the MRIC site, flow within the MDC appears to be constricted by an undersized and/or partially blocked culvert that passes flow beneath a farm road crossing. This flow constriction likely contributed to a back-up within the MDC which filled the detention basin with an estimated two to three feet of water sometime prior to 10 December 2014 (see discussion of detention basin below).

<u>Vegetation:</u> On the MRIC site, vegetation in the MDC is dominated by cattail (*Typha* sp.) and bulrush (*Schoenoplectus acutus* var. *occidentalis*). East of the MRIC site, the MDC is dominated by perennial pepperweed. Almost no bulrush and cattail occur in the segment of the MDC between the MRIC site and Road 105. A few young nonnative sycamores (*Platanus* sp.), one young nonnative Chinese tallow tree (*Triadica sebifera*), one Fremont's cottonwood (*Populus fremontii*) and one young native Goodding's black willow (*Salix gooddingii*) occur along the MDC on the MRIC site. A few more cottonwoods/willows occur along MDC between the MRIC site and Road 105, along the eastern sewer line alternative. The riparian trees that occur along the MDC are widely spaced and do not form a riparian corridor. The banks of the MDC are dominated by ruderal weeds such as mustard (*Brassica* sp.), milk thistle (*Silybum marianum*) and poison hemlock (*Conium maculatum*). Vegetation in the MDC is periodically removed by the City of Davis (City of Davis 2011; pers. comm., D. Ramos). On 7 October 2014 it was observed that vegetation had recently been cleared. Piles of recently removed cattail, bulrush, and other herbaceous wetland species were observed in the detention basin located

south of the MDC along the eastern edge of the MRIC site (see Section IV.C.4 for discussion of the detention basin).

<u>Bed and Banks</u>: The bed and banks of MDC are earthen and vegetated in the PSA. On the MRIC site, the bed is vegetated with freshwater marsh species (regularly removed as described above) and the banks are vegetated with ruderal species. East of the MRIC site, both the bed and banks are vegetated with ruderal species. The bed is roughly 6-8 ft below the top of the banks. An ordinary high water mark (OHWM) caused by the fluctuations of water is present within the MDC in the PSA. The OHWM was identified by the following indicators (Corps 2005): presence of litter and debris, wracking, vegetation matted down, leaf litter disturbed or washed away, and change in plant community.

Mace Drainage Channel History and Improvements

Prior to widening and deepening of the MDC in 1992, a smaller agricultural irrigation ditch was present in approximately the same alignment (Ramcon 2003; pers. comm., P. Stiehr, Watermark Engineering). This ditch was likely functioning in a stormwater drainage capacity at that time. The PSA has been part of a large area of farmed land since at least 1937 (Ramcon 2003). Historic aerial photographs do not clearly show whether or not an irrigation ditch was present at the location of the MDC.

Just east of the detention basin (described below), along the eastern edge of the MRIC site, on locally elevated ground, is a small concrete structure that includes an outfall for water, an approximately 17 ft long, concrete-lined portion of a ditch, and metal pipes rising from the ground. Associated with the Mace Ranch development, this structure was constructed in approximately 1993 as an interim solution to phased MDC improvements. The structure was designed to pump water from the detention basin, south across the MRIC site, then east to the MDC further downstream, around an unimproved portion of the MDC. Because the phased MDC improvements were completed shortly after construction of the concrete structure/pump, the structure/pump was never used (pers. comm., Patrick Stiehr, Watermark Engineering). The structure is non-functional. Interim improvements include a culvert with a concrete apron at the southeast corner of the MRIC site, which was to pass water through the concrete outlet underneath Road 32A. No ditch was observed delivering water to this apron/culvert. Today, an approximately 250-ft long, 1-ft wide earthen ditch connects the concrete structure back to the detention basin at its southeast corner. The ditch has no OHWM, is excavated in uplands, is higher elevation than the detention basin and MDC, and is dominated by weedy upland vegetation. Its watershed is negligible and it appears to convey only precipitation runoff from immediately adjacent uplands to the detention basin. The non-operational concrete structure/pump and the associated 250-ft ditch are not potentially jurisdictional waters.

No channels, ditches or other potential water features occur at the location of the MDC on any of the historic topographic maps (1907, 1915, 1952, 1954, 1968, 1981, and 1992; USGS Historical Topographic Map Explorer, <u>http://historicalmaps.arcgis.com/usgs/</u>) or on either of the NWI maps (USFWS 1990, 2014). An isolated, linear depression is shown approximately 1,000 ft south of the MDC on historical topographic maps from 1915 to 1992, and it is discussed in detail in Section IV.D.2. There is no evidence that the isolated feature was ever connected to the MDC.

Galloway Consulting, Inc. conducted a wetland delineation field assessment on 5 July 2005 for the nearby Second Street Crossing (Target Store) Project. Their report (Galloway Consulting, Inc. 2006)

concluded that the nearby portion of the MDC (approximately 0.5 mi upstream of the MRIC site) was excavated in an upland area for the purpose of receiving drainage from the Mace Ranch Park Project and that the MDC was not regulated by the U.S. Army Corps of Engineers. The City of Davis incorporated Galloway's findings in Chapter 4.7 of the DEIR.

2. Minor Roadside Drainage Ditches

Roadside drainage ditches roughly 1-2 ft wide occur along the east side of Mace Blvd, along both sides of Road 32A, along both sides of the Park and Ride driveway, and along portions of an unnamed dirt road that travels from the Ikeda's Market Parking Lot southeast to the southern edge of the PSA. These features are manmade, excavated in uplands, and drain only uplands. They are dominated by upland ruderal weeds. No OHWM was observed in these features. The roadside ditches drain into existing storm drains that likely drain to the MDC outside the PSA. Ditches excavated wholly in and draining only uplands are not jurisdictional under the CWA (Corps and EPA 2008).

3. Minor Irrigation Ditches

One irrigation ditch roughly 1-2 ft wide occurs along the eastern edge of the MRIC site north of the MDC. This ditch appears to drain irrigation runoff from fields north of the site. It drains to the MDC just east of the MRIC site. Irrigation ditches also occur on both sides of Road 105 at the eastern end of the PSA. These ditches may also drain runoff from along Road 105, but their primary purpose appears to be irrigation drainage. These ditches drain to the MDC. The irrigation ditch on the west side of Road 105 drains to the MDC via a pipe beneath the dirt road adjacent and north of the MDC as the MDC turns south at the eastern edge of the PSA. The irrigation ditches in the PSA are man-made and excavated in uplands. They are dominated by upland ruderal weeds. They do not drain wetlands or potential Waters of the U.S. and they are not realigned natural features. An OHWM was not observed in these features. Irrigation ditches excavated wholly in and draining only uplands are not jurisdictional under the CWA (Corps and EPA 2008). Waters, including wetlands, created as a result of irrigation are not considered Waters of the U.S. even when augmented on occasion by precipitation (Corps 2007).

D. Other Features

1. Detention Basin

An approximately 1,200 ft long x 330 ft wide detention basin occurs adjacent to and south of the MDC near the eastern boundary of the MRIC site. The basin was constructed in 1992 to attenuate peak flow in the MDC while waiting for MDC improvements east of the MRIC property (Watermark Engineering, Inc. 2014). No wetlands occur within the detention basin based on 7 data points taken in this 9-acre feature (Figure 4; Data Points #1-7 in Appendix A). The basin is separated from the MDC by an approximately 23 ft wide, 5 ft tall earthen berm. A concrete weir located between the basin and the MDC near the eastern edge of the MRIC site allows high water from the MDC to flow into the detention basin during extreme high water events. Two one-way metal flap gates in the weir allow water in the detention basin to flow back into the MDC as water in the MDC recedes.

Prior to 2014, the detention basin had never been observed with standing water (pers. comm., D. Ramos). None of the aerial photographs available in Google Earth show standing water in this feature. On 10 December 2014, wracking was observed along the northern and eastern sides of the detention basin at an elevation indicating that two to three feet of water had recently inundated the basin. The wracking was not observed along the edge of the basin on 7 October 2014 and most likely originated

from the piles of vegetation that were removed from the MDC and placed in the basin earlier in 2014. A partially blocked culvert just downstream of the spillway in the MDC at the eastern edge of the MRIC site could have caused water levels in the ditch to overtop the spillway, which would have flooded the basin.

No surface water or saturated soils were observed in the detention basin on 10 December 2014 despite over 3.5 inches of rain within the 12 preceding days (NOAA 2014), and evidence of 2-3 ft of inundation. Soil pits excavated throughout the basin showed that much of the basin is underlain by permeable sand and silt. Vegetation in the detention basin was dominated by perennial pepperweed, prickly lettuce (*Lactuca serriola*), milk thistle, poison hemlock, yellow star-thistle, hairy hawkbit (*Leontodon saxatilis*), curly dock (*Rumex crispus*), clover (*Trifolium* sp.), redstem filaree (*Erodium cicutarium*), and immature grass seedlings (most likely nonnative annual grasses). The detention basin does not contain wetlands or waters.

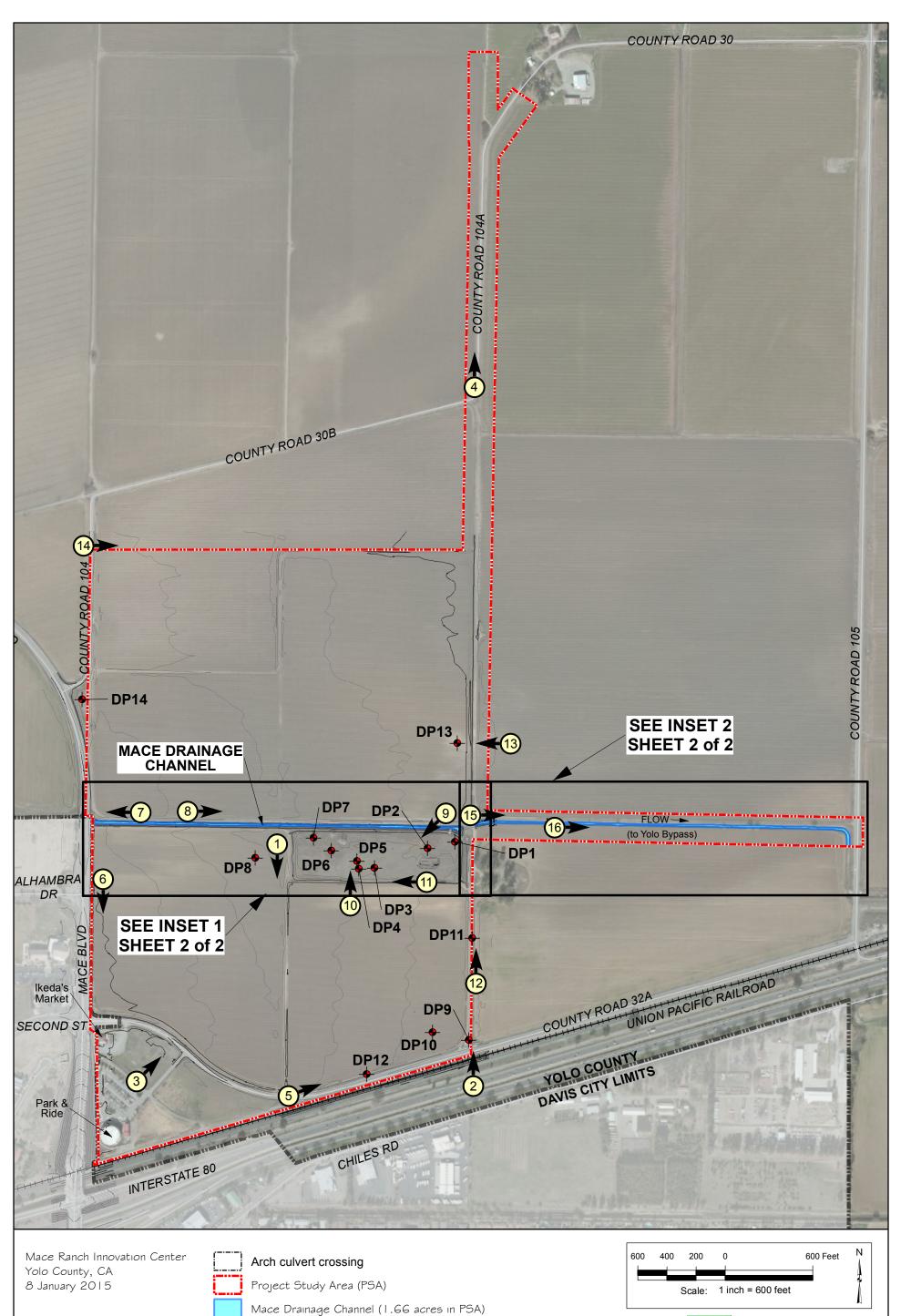
2. Historical Isolated Feature

An isolated linear depression is visible on the 1990 NWI map (USFWS 1990), on historical USGS quadrangle maps from 1915 to 1992, and on aerial photographs dated 1970 and earlier. This feature was analyzed to determine whether it was a natural feature and whether it was realigned to form any of the features present on the site today. This feature was located approximately 1,000 ft south of the present day MDC and does not appear to have been hydrologically connected to any other features. No tributaries to or outlets from the feature are shown on any of the historical maps and aerial photographs. This feature was likely used for irrigation purposes (pers. comm., Patrick Stiehr, Watermark Engineering). A well (no longer present) is shown along the east side of Mace Blvd, immediately adjacent to this isolated feature on the 1968 and 1992 Davis topographic maps. The isolated feature was filled and graded in approximately 1993.

Feature	Hydrology	Length in PSA (ft)	Avg. Width in PSA (ft)	Area (ac) ¹
Mace Drainage Channel	Artificial	5,175	13.9	1.66
Total:		5,175		1.66

Table 2. Feature Summary

¹ Acreages were calculated with ESRI ArcMap functions.



Data Point (DP)

Figure 4.

Sheet I of 2

Jurisdictional Delineation Map

Photopoint Location and Direction

n PSA)

 Date
 Submittal
 Delineators
 Agency/Company
 Const

Sycamore Environmental

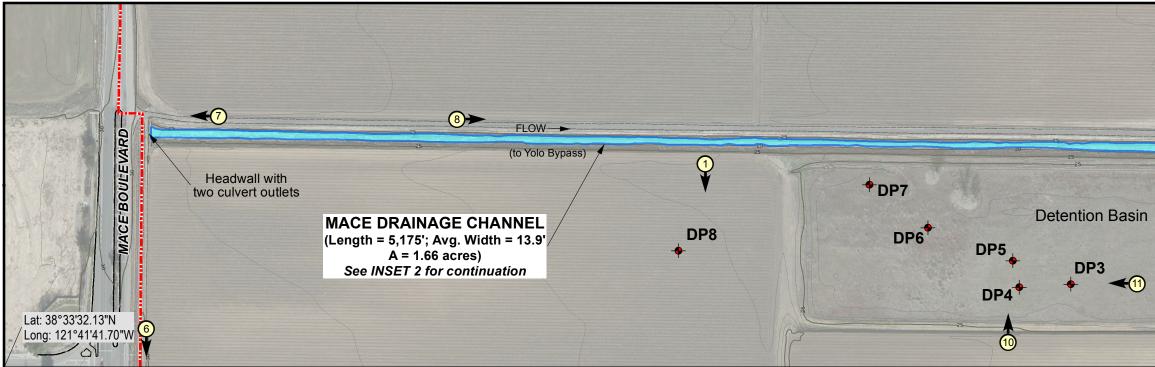
M. Bower, N. Pouya

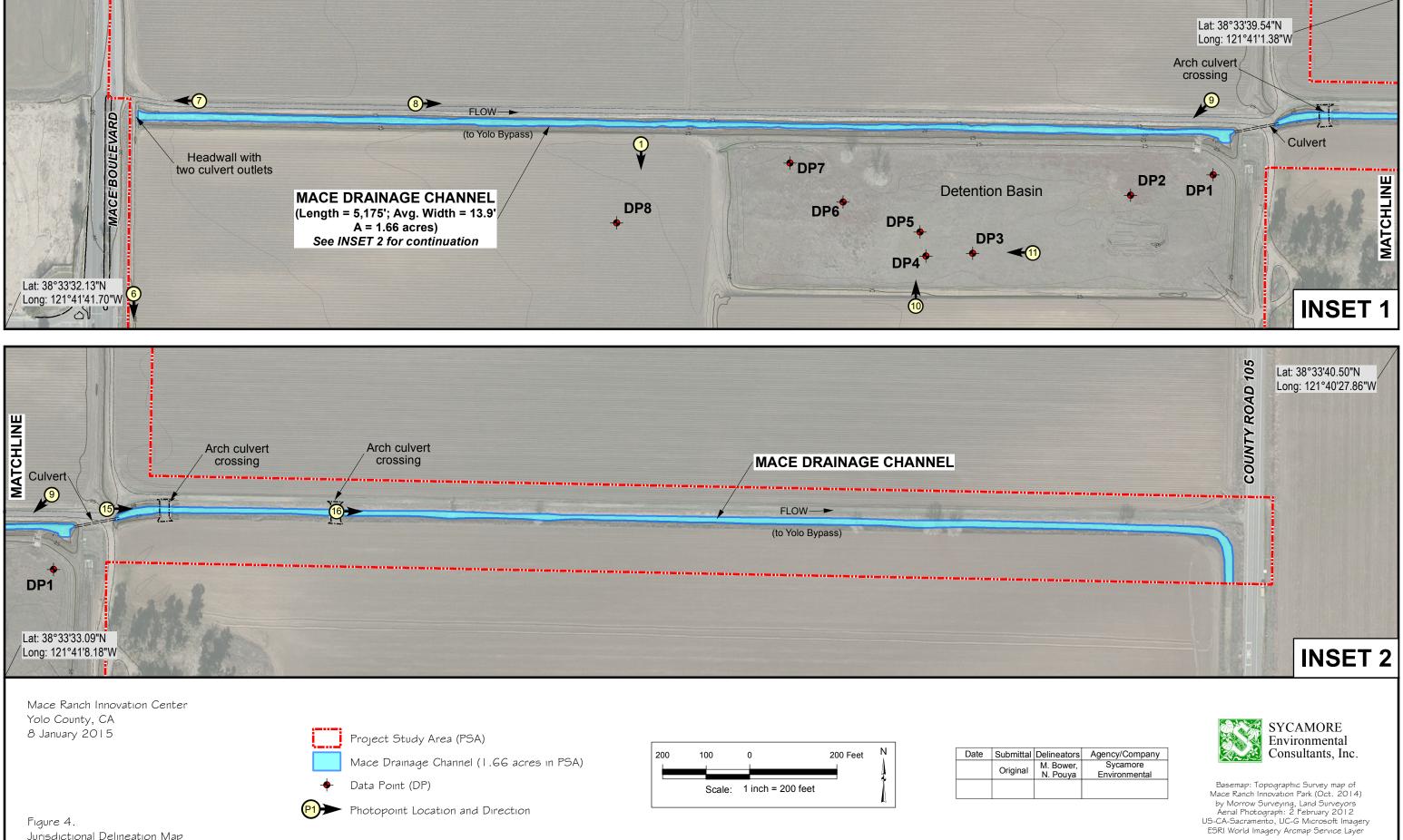
Original

SYCAMORE Environmental Consultants, Inc.

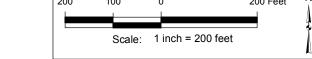
Basemap: Topographic Survey map of Mace Ranch Innovation Park (Oct. 2014) by Morrow Surveying, Land Surveyors Aenal Photograph: 2 February 2012 US-CA-Sacramento, UC-G Microsoft Imagery ESRI World Imagery Arcmap Service Layer

4087MaceInnovation Fig4Delin Sheet1of2 v3.mxd





Jurisdictional Delineation Map Sheet 2 of 2, INSETS | \$ 2



Date	Submittal	Deli
	Original	М. N.

Jurisdictional Delineation Mace Ranch Innovation Center Project Yolo County, CA

V. REGULATORY ANALYSIS AND DISCUSSION

On 2 December 2008, the Corps and EPA issued a memorandum providing guidance on implementation of the Supreme Court's decision in the consolidated cases of Rapanos v. United States and Carabell v. United States (2008). These two cases address the scope of the Corps' jurisdiction over waters of the United States under the Clean Water Act. The guidance distinguishes among traditional navigable waters (TNW), relatively permanent waters (RPW), and non-relatively permanent waters (non-RPW). The Corps will routinely exercise jurisdiction over TNWs, RPWs, wetlands abutting these waters, and wetlands adjacent to TNWs. The jurisdictional determination for non-relatively permanent waters, their adjacent wetlands (if any), and wetlands adjacent to RPWs not considered traditionally navigable will be based on whether there exists a significant nexus with a TNW. Factors evaluated by the Corps during the significant nexus evaluation will include ecology, hydrology, and the influence of the water on the "chemical, physical, and biological integrity of downstream traditional navigable waters" (Corps 2008). The Corps may exert jurisdiction if the findings of the significant nexus evaluation indicate that "the tributary and its adjacent wetlands are likely to have an effect [on downstream traditional navigable waters] that is more than speculative or insubstantial" (Corps and EPA 2008). Finally, the guidance provides that the Corps will not generally assert jurisdiction over ditches (including roadside ditches) which are excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water. The guidance recognizes that these features, by their very nature, do not have a significant nexus to downstream traditional navigable waters.

The Rapanos memorandum (Corps and EPA 2008) does not affect the Court's decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, No. 99-1178 (January, 2001; "SWANCC") which involved statutory and constitutional challenges to the assertion of CWA jurisdiction over isolated, non-navigable, intrastate waters used as habitat by migratory birds. Isolated wetlands and waters are not subject to Clean Water Act jurisdiction.

The following is an assessment of Corps jurisdiction over the features identified within the PSA in Section IV, pursuant to the Corps/EPA guidance memorandum:

A. TNWs and Adjacent Wetlands

No TNWs or wetlands adjacent to TNWs occur in the PSA.

B. RPWs that flow directly or indirectly into TNWs

No RPWs that flow directly or indirectly into TNWs occur in the PSA.

C. Non-RPWs that flow directly or indirectly into TNWs

No non-RPWs that flow directly or indirectly into TNWs occur in the PSA.

D. Wetlands directly abutting RPWs that flow directly or indirectly into TNWs No wetlands directly abutting RPWs occur in the PSA.

E. Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

No wetlands adjacent but not directly abutting RPWs occur in the PSA.

F. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs No wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs occur in the PSA.

G. Impoundments of waters

There are no impoundments of water in the PSA. The detention basin is a man-made structure excavated in uplands. It does not meet the three-parameter wetlands criteria. It is not an impoundment of water, nor is water ordinarily present within the basin under normal conditions. Based on these factors, the detention basin is not jurisdictional.

H. Isolated (interstate or intrastate) waters, including isolated wetlands

Wetlands that are isolated and lack an interstate or foreign commerce connection, but otherwise meet the 3-parameter test for wetlands, are considered "isolated wetlands" and are not regulated by the Corps. No isolated waters or wetlands occur in the PSA.

I. Non-jurisdictional features

The Mace Drainage Channel is a non-navigable, man-made storm water drainage ditch maintained by the City of Davis (see detailed discussion in Section IV.C). It is excavated in uplands and drains only uplands. It is not a realigned natural channel. There is no relatively permanent flow of water within this feature. The Mace Drainage Channel is not jurisdictional.

The roadside drainage ditches and irrigation ditches in the PSA are non-navigable, man-made ditches excavated in uplands and draining only uplands. These features have no OHWM. None of these features carry a relatively permanent flow of water. These features are not jurisdictional.

J. Summary of Jurisdictional Acreages

No potentially jurisdictional waters occur in the PSA.

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Personal Communications

- Dan Ramos, Vice President, Ramco Enterprises, Inc. 7 October 2014. Onsite interview regarding offsite improvements, agricultural history, detention basin history and use, and drainage feature.
- Patrick Stiehr, PE, President, Watermark Engineering, Inc. 30 December 2014. Telephone conversation and emails regarding Mace Channel Improvements, detention basin, and site drainage.

VII. REPORT PREPARERS

Jeffery Little, A.A., Sacramento City College, Sacramento, CA. Over 20 years experience with preparation of NES, BA, and NEPA/CEQA compliance documents, impact analysis, agency formal and informal consultations and permitting. Project management, conducts special-status species surveys, jurisdictional delineations, and prepares mitigation and monitoring plans. CAD/ GIS Manager responsible for data collection, map creation, impact analyses, and report preparation. He holds a CDFW Plant Collecting Permit (2081(a)-12-17-V), and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617). Responsibilities: Project manager.

Michael Bower, M.S., Ecology, University of California, Davis, CA. Over 7 years of experience as a professional biologist. Performs wetland delineations and conducts surveys for special-status plants and wildlife. Prepares reports used in the CEQA/NEPA process that document resources, identify impacts, and recommend mitigation measures. Prepares restoration, weed management, and monitoring plans. Leads plant identification workshops at UC Davis. Holds a CDFW Plant Collecting Permit (2081(a)-09-14-V) and is an authorized individual on a CDFW Scientific Collecting Permit (SC-7617). Certified Ecologist and a Professional Wetland Scientist (2230). His B.S. degree from Saint Mary's College is in environmental science.

Responsibilities: Fieldwork, plant identification, and report preparation.

Chuck Hughes, M.S., Plant Biology, Michigan State University, East Lansing, MI. Over 13 years experience preparing biological/botanical resource evaluations, wetland delineations, arborist reports, impact analyses, and mitigation and restoration plans. Professional Wetland Scientist (#2029), ISA Certified Arborist (WE-6885A), holds a CDFW Plant Voucher Collecting Permit (2081(a)-14-072-V), CDFW Scientific Collecting Permit (SC-7617), authorized individual on a USFWS recovery permit for listed vernal pool branchiopods (TE799564-4). His B.S. degree from UC Davis is in environmental horticulture and urban forestry, with an emphasis in plant biodiversity. Responsibilities: Field work, plant identification, and report preparation.

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Responsibilities: Fieldwork, report preparation, and figure preparation.

Aramis Respall, GIS Analyst/ CAD Operator. Over 20 years experience in drafting and spatial analysis using AutoCAD map and ArcGIS for public and private projects. Prepares figures for biological and permitting documents such as project location maps, biological resource maps, wetlands/waters delineation maps, impact analysis maps, and other supporting graphics. Primary experience evolved from surveying and civil engineering practices to advanced GPS/GIS technology. Responsibilities: Figure preparation and spatial analysis.

Cynthia Little, Principal, Sycamore Environmental. Responsibilities: Senior editor, quality control.

Appendix A.

Wetland Data Sheets

WETLAND D	DETERMINA	TION DATA	A FORM – <mark>A</mark>	rid West Region		
(September		Wetland Dete E Arid West W		eation Manual)		
Project/Site: Mace Ranch Innovation Center					Sampling Date:	10 Dec 2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates	Group of Co	mpanies		State: CA	Sampling Point:	1
				nip, Range: See Rep		
Landform (hillslope, terrace, etc.): Terrace		Local reli	ief (concave,	, convex, none): no	ne Slop	pe (%): 0
Subregion (LRR): C	Lat: S	ee Report		Long:	Datu	ım:
Soil Map Unit Name: Willows clay, alkali, drained					ification: None	
Are climatic/hydrologic conditions on the site typical						
Are Vegetation 🗌 Soil 🗍, Or Hydrology 🗌 Sig	-			Normal Circumst	-	
Are Vegetation Soil , Or Hydrology Nat	urally problem	matic?	(If ne	eeded, explain any	answers in rema	.rks.)
SUMMARY OF FINDINGS – Attach site maj	n showing s	amnling no	int locatio	ns transects imr	ortant features	etc
Hydrophytic Vegetation Present? Yes			int locatio	ns, transects, mp	joi tant icatures,	, etc.
Hydric Soil Present? Yes			the Sample	d Area		
Wetland Hydrology Present? Yes			vithin a We			
Remarks:				105		
VEGETATION						
Tree Stratum: ((Plot size:)		Dominant	Indicator	Dominance Test	worksheet	
	% Cover		Status			
1			. <u> </u>	Number of Domin That Are OBL, FA		2 (4)
2				Total Number of I		2 (A)
3. 4.				Species Across Al		6 (B)
···				Percent of Domina		(2)
Total Cover:		_		That Are OBL, FA		33% (A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index		ultiply by
1				Total % Cover of:	M	ultiply by:
2.				OBL Species:	Х	1 =
3.						
4				FACW Species	X .	2 =
5		<u> </u>				
				FAC Species	X .	3 =
Total Cover:		-		EACU Spacing		4 —
Herb Stratum: (Plot size:10' radius)				FACU Species	X ·	4 =
				UPL Species	X	5 =
1. Lepidium latifolium	1	D	FAC			
2. <i>Epilobium ciliatum</i>	2	D	FACW	Column Totals:	(A	(B)
3. Leontodon saxatilis	1	<u>D</u>	FACU			
 Carduus pycnocephalus ssp. pycnocephalus Silybum marianum 	1	 	UPL UPL	Prevalence In Hydrophytic Vege		
 Suybum marianum Lactuca sp. likely serriola 	1	 	FACU		e Test is >50%	
7. Unknown annual grass seedlings	1	D			Index is $\leq 3.0^1$	
8.					gical Adaptations ¹ (I	
					arks or on a separate	
Total Cover:	8	-		Problemati	c Hydrophytic Veg	etation ¹ (Explain)
Woody Vino Stratume (Distained				Indiates of Head		1 1 1
Woody Vine Stratum: (Plot size:)				must be present.	lric soil and wetlan	u nyurology
1				indet de present.		
2.				Hydrophytic		
Total Cover:				Vegetation		
% Bare Ground in Herb Stratum 90 %	6 Cover of Bi	otic Crust 0)	Present?	Yes 🗌	No 🖂

Remarks:

Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

Profile Des	cription: (Describe th Matrix	e depth need	ed to document th	e Indicator or Redox Featur		bsence of I	ndicators.)	
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0-1	10 YR 3/2	100					Clay loam	
1-12	2.5 Y 5/4	100					Clay loam	
12-16	10 YR 4/3	100					Sandy loam	
¹ Type : C=0	Concentration, D=Dep	letion, RM=Re	educed Matrix, CS=	Covered or Coa	ated Sand Gra	ins ² Lo	cation: PL=Pore Lining, M=Matrix	
Hist Hist Blac Hyd Stra D pep	il Indicators: (App osol (A1) ic Epipedon (A2) ik Histic (A3) rogen Sulfide (A4) tified Layers (A5) (I n Muck (A9) (LRR leted Below Dark Su ik Dark Surface (A1)	L RR C) D) 11face (A11)	Sandy Strippe Loamy Loamy Deplet Redox Deplet	therwise note Redox (S5) ed Matrix (S6 / Mucky Mine / Gleyed Matri ed Matrix (F3 Dark Surface ed Dark Surface Depressions) eral (F1) ix (F2) i) (F6) ace (F7)		Indicators for Problematic Hydric Soils ³ : 1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)	
Sano	dy Mucky Mineral (dy Gleyed Matrix (S	S1)		Pools (F9)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Restrictiv	e Layer (if present):						
Type:								
Depth (in	iches):		_				Hydric Soil Present? Yes 🗌 No	\boxtimes
Remarks: No redox	in soil. No redox al	ong living ro	ots.				·	

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2or more required)
Surface water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine)
High water Table (A2) Biotic Crust (B12	2) Sediment Deposits (B2) (Riverine)
Saturation (A3)	rates (B13) Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide	e Odor (C1) Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizosp	bheres along Living Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)	ced Iron (C4) Crayfish Burrows (C8)
Surface Soil Cracks (B6)	ction in Tilled Soils (C6) Saturation Visible-Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface	
Water-Stained Leaves (B9) Other (Explain in	n Remarks) FAC-Neutral test (D5)
Field Observations:	
Surface Water Present? Yes 🗌 No 🖾 Depth (inches	.):
Water Table Present? Yes No X Depth (inches	.):
Saturation Present? Yes No X Depth (inches	(i): Wetland Hydrology Present? Yes 🗌 No 🖂
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections, if available:
Remarks:	
No inundation visible on Google Earth images. Drift deposits consider	red riverine because they were associated with extreme high water in Mace
Drainage Channel.	

(September	Routine V 2008 V2.0 COE	Wetland Det E Arid West V		eation Manual)		
Project/Site: Mace Ranch Innovation Center			Yolo County	,	Sampling Date:	10 Dec 2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates					Sampling Point	
	, eroup or eor	~		ip, Range: See R		
				convex, none): n		lone (%): 0
Subregion (LRR): <u>C</u>						atum:
Soil Map Unit Name: Willows clay, alkali, drained		ee nepone			ssification: None	
Are climatic/hydrologic conditions on the site typical	for this time o	of the year?	Yes 🕅 No			
Are Vegetation Soil , Or Hydrology Sig		-				?Yes 🛛 No 🗌
Are Vegetation Soil , Or Hydrology Na	•			eded, explain an		
				_	-	
SUMMARY OF FINDINGS – Attach site ma			oint location	ns, transects, in	portant featur	es, etc.
Hydrophytic Vegetation Present? Yes		\boxtimes				
Hydric Soil Present? Yes			the Sample			
Wetland Hydrology Present? Yes	□ No		within a We	tland? Yes	S 🗌 No 🛛	
Remarks:						
VEGETATION		D	T 10 /			
Tree Stratum: ((Plot size:)	Absolute % Cover		Indicator Status	Dominance Tes	t worksheet:	
1.	70 Cover	species:	Status	Number of Dom	inant Species	
2.				That Are OBL, F	•	1 (A)
3.				Total Number of	Dominant	、 ,
4				Species Across A		2 (B)
				Percent of Domi		5 000 (1.475)
Total Cover:		-		That Are OBL, F	ACW, or FAC:	50% (A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Inde	x worksheet:	
				Total % Cover o		Multiply by:
1						
2				OBL Species:	·	x 1 =
3				FACW Species		ж 2 —
4 5				FAC w Species	. <u> </u>	X 2 -
···				FAC Species		x 3 =
Total Cover:						
		-		FACU Species	<u></u>	x 4 =
Herb Stratum: (Plot size: 10' radius)						
	10	D	TAG	UPL Species		x 5 =
I. Rumex crispus 2. Carduus pycnocephalus ssp. pycnocephalus	$\frac{10}{1}$	D	FAC UPL	Column Totals:		(A) (B)
3. Leontodon saxatilis	5	D	FACU	Column rotars.		(A) (D)
4. <i>Trifolium</i> sp. (possibly <i>Medicago</i> sp.)	3		FAC	Prevalence 1	Index = $B/A =$	
5. Lepidium latifolium	3		FAC		getation Indicators	:
6. Geranium molle	1		UPL	Dominan	ce Test is >50%	
7. Sonchus sp. likely oleraceus	1		UPL		• • • • •	1
 <i>Galium aparine</i> Unknown annual grass seedlings 	$\frac{2}{5}$	D	FACU		ogical Adaptations marks or on a separa	¹ (Provide supporting te sheet)
		<u>D</u>			narks of on a separa	
Total Cover:	31			Problema	tic Hydrophytic V	egetation ¹ (Explain)
		-			5 1 5	
Woody Vine Stratum: (Plot size:)					ydric soil and wetl	and hydrology
				must be present.		
1						
Z Total Cover:				Hydrophytic Vegetation		
	% Cover of Bio	otic Crust ()	Present?	Yes 🗌	No 🖂

Remarks:

Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

	escription: (Describe the secret of the secr	he depth need	ed to document the			bsence of Ir	ndicators.)		
Depth	Matrix		~	Redox Featur			_		
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0.1	10 100 0/0	100							
0-1	10 YR 3/2	100			. <u> </u>		clay loam		
1.4	2 5 X 4/2	100					-11		
1-4	2.5 Y 4/2	100					clay loam		
4-14	25 V 1/2	100					silty loom		
4-14	2.5 Y 4/3	100			. <u> </u>		silty loam		
				<u> </u>	. <u></u>		<u> </u>		
ITC	=Concentration, D=Dep	Inting DM D	durand Materian CC		4 <u>1 C - 1 C -</u>	21	cation: PL=Pore Lining, M=	Matria	
	Soil Indicators: (App					ins Lo	Indicators for Problem		3.
	stosol (A1)	Difcable to a		Redox (S5)	eu.)		\square 1 cm Muck (A9) (•
	stic Epipedon (A2)			d Matrix (S6)	,		$\square 2 \text{ cm Muck (A9)} (1)$		
	ack Histic (A3)			Mucky Mine			Reduced Vertic (F		
	drogen Sulfide (A4)			Gleyed Matr			Red Parent Materi		
	ratified Layers (A5) (1			d Matrix (F3			Other (Explain in I	Remarks)	
	m Muck (A9) (LRR			Dark Surface					
	pleted Below Dark S			d Dark Surfa					
🗌 Th	ick Dark Surface (A1	2)	Redox 1	Depressions	(F8)				
San San	ndy Mucky Mineral (S1)	Vernal	Pools (F9)			³ Indicators of hydrophyt	ic vegetation and	
San San	ndy Gleyed Matrix (S	(4)					wetland hydrology must	be present, unless	
							disturbed or problemation		
	ive Layer (if present):							
Type:									
Depth (inches):		_						
							Hydric Soil Present?	Yes 🗌 No	
Remarks	:								
No redox	x in soil. No redox al	ong living ro	ots.						
		2							
L									
HYDR	OLOGY								

Wetland Hydrology Indicators:				
Primary Indicators (minimum of one required; che	<u>S</u>	Secondary Indicators (2or more required)		
Surface water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)		
High water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)		
Saturation (A3)	Aquatic Invertebrates (B13)	\triangleright	Drift Deposits (B3) (Riverine)	
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Ľ	Drainage Patterns (B10)	
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Livin	g Roots (C3)	Dry-Season Water Table (C2)	
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)		Crayfish Burrows (C8)	
Surface Soil Cracks (B6)	ls (C6)	Saturation Visible-Aerial Imagery (C9)		
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)		
Water-Stained Leaves (B9)	Other (Explain in Remarks)		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):	Wetland Hydro	ology Present? Yes 🗌 No	\boxtimes
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, previous inspecti	ons, if available:		
Remarks:				
No inundation visible on Google Earth images. D	Drift deposits considered riverine becaus	se they were asso	ociated with extreme high water in Mace	
Drainage Channel.	1	2	C	

WETLAND D				rid West Region	
(September	2008 V2.0 COE	Vetland Dete Arid West W		eation Manual)	
Project/Site: Mace Ranch Innovation Center	Cit	y/County:	Yolo County	Sampling Date:	10 Dec 2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates	Group of Cor	npanies		State: CA Sampling Po	oint: 3
Investigator(s): Mike Bower, Noosheen Pouya		Secti	on, Townshi	ip, Range: See Report	
Landform (hillslope, terrace, etc.): Terrace		Local reli	ef (concave,	convex, none): none	Slope (%): 0
Subregion (LRR): C	Lat: Se	e Report			Datum:
Soil Map Unit Name: Capay silty clay				NWI classification: None	
Are climatic/hydrologic conditions on the site typical		-			
Are Vegetation Soil , Or Hydrology Sig Are Vegetation Soil , Or Hydrology Nat	-			Normal Circumstances" preser eded, explain any answers in re	
SUMMARY OF FINDINGS – Attach site maj	o showing sa	mpling poi	int locatior	ns, transects, important featu	res, etc.
Hydrophytic Vegetation Present? Yes	D No	\boxtimes			
Hydric Soil Present? Yes	D No		the Sample		
Wetland Hydrology Present? Yes	No No	🛛 w	ithin a Wet	tland? Yes No	\boxtimes
Remarks:					
VEGETATION					
Tree Stratum: ((Plot size:)	Absolute	Dominant	Indicator	Dominance Test worksheet:	
	% Cover	Species?	Status		
1				Number of Dominant Species That Are OBL, FACW or FAC:	1 (A)
3.				Total Number of Dominant	<u> </u>
4.				Species Across All Strata:	3 (B)
				Percent of Dominant Species	
T (10				That Are OBL, FACW, or	220/ (A/D)
Total Cover:				FAC:	<u> 33% (A/B)</u>
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
1				OBL Species:	1
2				OBL Species.	x 1 =
4.				FACW Species	x 2 =
5.					
				FAC Species	x 3 =
Total Cover:				FACU Species	x 4 =
Herb Stratum: (Plot size: 10' radius)				TACU Species	_ X 4
				UPL Species	x 5 =
1. <i>Trifolium</i> sp. (possibly <i>Medicago</i> sp.)	7	D	FAC		
 Leontodon saxatilis Erodium cicutarium 	4		FACU UPL	Column Totals:	(A) (B)
4. Centaurea solstitialis	1		UPL	Prevalence Index = $B/A =$	
5. Silybum marianum	7	D	UPL	Hydrophytic Vegetation Indicate	ors:
6. Unknown annual grass seedlings	4			Dominance Test is >50%	
7. Senecio vulgaris	1		FACU	Prevalence Index is $\leq 3.0^{11}$	
 <u>Lepidium latifolium</u> <u>Carduus pycnocephalus ssp. pycnocephalus</u> 	<u> </u>	D	FAC UPL	Morphological Adaptatio data in Remarks or on a sepa	
10. Convolvulus arvensis	1	D	UPL	data in Remarks of on a sept	auto shoety
					. 1
Total Cover:	32			Problematic Hydrophytic	Vegetation ¹ (Explain)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil and we	etland hydrology
1.				must be present.	
2.				Hydrophytic	
Total Cover:				Vegetation	
% Bare Ground in Herb Stratum 70 %	6 Cover of Bio	otic Crust 0		Present? Yes	No 🖂

Remarks: Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

	scription: (Describe tl	ne depth need				osence of In	dicators.)	
Depth	Matrix			Redox Featur				
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
		100					a 11	
0-14	2.5 Y 4/2	100			. <u> </u>		Silt	
1								
	Concentration, D=Dep					ns ² Loc	cation: PL=Pore Lining, M	
	oil Indicators: (App	olicable to all			e d.)		Indicators for Proble	
	tosol (A1)			edox (S5)			$\square 1 \text{ cm Muck (A9)}$	
	tic Epipedon (A2)			Matrix (S6)			2 cm Muck (A10)	
	ck Histic (A3)			lucky Mine			Reduced Vertic (I	
	lrogen Sulfide (A4)			leyed Matri			Red Parent Mater	
	tified Layers (A5) (I			Matrix (F3			Other (Explain in	Remarks)
	n Muck (A9) (LRR			ark Surface				
	bleted Below Dark S			Dark Surfa				
	ck Dark Surface (A1	,		epressions (F8)		3	
	dy Mucky Mineral (Vernal P	ools (F9)			³ Indicators of hydrophy	
	dy Gleyed Matrix (S	4)					wetland hydrology must disturbed or problemati	
Restrictiv	ve Layer (if present)•					usturbed or problemati	ic.
Type:								
21	nches):		_					
Deptii (ii	icites).		_				Huduia Cail Duggant?	Yes 🗌 No 🖂
Remarks:							Hydric Soil Present?	Yes No
		ong living ro	ota					
ino redox	in soil. No redox al	ong nying ro	018.					
HYDRO	LOGY							
III DKU								

Wetland Hydrology Indicators:				
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2or more required)			
Surface water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine)			
High water Table (A2) Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)			
Saturation (A3) Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)			
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)			
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Livi	ng Roots (C3) Dry-Season Water Table (C2)			
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)			
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled S	oils (C6) Saturation Visible-Aerial Imagery (C9)			
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	Shallow Aquitard (D3)			
Water-Stained Leaves (B9) Other (Explain in Remarks)	FAC-Neutral test (D5)			
Field Observations:				
Surface Water Present? Yes No X Depth (inches):				
Water Table Present? Yes No X Depth (inches):				
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🖂			
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	tions, if available:			
Remarks:				
No inundation visible on Google Earth images. Drift deposits considered riverine beca	use they were associated with extreme high water in Mace			
Drainage Channel. Drift deposits observed nearby to the south.				

WETLAND I				arid West Region		
(0, -()		Wetland Det				
Project/Site: Mace Ranch Innovation Center				eation Manual) y Sampling Date	: 10 Dec	2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates					oint:	4
				ip, Range: See Report		-
Landform (hillslope, terrace, etc.): Terrace				, convex, none): none		0
· · · · · · · · · · · · · · · · · · ·	Lat' S				Datum:	-
Soil Map Unit Name: Capay silty clay	Lat. 5			NWI classification: Non		
Are climatic/hydrologic conditions on the site typical	for this time (of the year?	Ves 🕅 N			
Are Vegetation Soil , Or Hydrology Sig		-		"Normal Circumstances" prese		No 🗖
Are Vegetation Soil , Or Hydrology Na	•			eeded, explain any answers in r		
					,	
SUMMARY OF FINDINGS – Attach site may			oint location	ns, transects, important featu	ıres, etc.	
Hydrophytic Vegetation Present? Yes		\triangleright				
Hydric Soil Present? Yes			the Sample			
Wetland Hydrology Present? Yes		v 🛛 V	within a We	tland? Yes No	\boxtimes	
Remarks:						
VEGETATION						
Tree Stratum: ((Plot size:)		Dominant Species?	Indicator Status	Dominance Test worksheet:		
1				Number of Dominant Species		
2.				That Are OBL, FACW or FAC:	0	(A)
3.				Total Number of Dominant		_ ` ´
4.				Species Across All Strata:	1	(B)
Total Cover:		_		Percent of Dominant Species That Are OBL, FACW, or FAC:	0%	(A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet: Total % Cover of:	Multiply b	×7.
1					- Withtipity 0	y.
2.				OBL Species:	x 1 =	
3						
4				FACW Species	_ x 2 =	
5				FACE :	2	
Total Cover:				FAC Species	x 3 =	
Total Cover.		-		FACU Species	x 4 =	
Herb Stratum: (Plot size: 10' radius)						
				UPL Species	x 5 =	
1. Leontodon saxatilis	30	D	FACU			
2. Unknown annual grass seedlings	15			Column Totals:	(A)	(B)
 3. Erodium cicutarium 4. Trifolium sp. (possibly Medicago sp.) 	<u>15</u> 1		UPL	\mathbf{D} revelop as \mathbf{I} aday $-\mathbf{D}/\mathbf{A}$		
 <i>Trijolium</i> sp. (possibly <i>Medicago</i> sp.) <i>Lepidium latifolium</i> 	1		FAC FAC	Prevalence Index = B/A = Hydrophytic Vegetation Indicate		
6				Dominance Test is >50%		
7.				Prevalence Index is $\leq 3.0^{11}$		
8.				Morphological Adaptatio	ns ¹ (Provide s	upporting
				data in Remarks or on a sepa		
Total Cover:	62	_		Problematic Hydrophytic	Vegetation	(Explain)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil and we	etland hydrol	ogy
1.				must be present.		
1				Hydrophytic		
Total Cover:		·		Vegetation		
	6 Cover of Bi	otic Crust ()	Present? Yes	No	\boxtimes
Remarks:						

Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

	escription: (Describe the	depth needed to do	cument the			bsence of I	ndicators.)	
Depth	Matrix	<u> </u>	(· · · ·	Redox Feature		T 2		
Inches	Color (moist)	% Color	r (moist)	%	Type ¹	Loc ²	Texture Remarks	
0.22	0.5 X 4/0	100					1	
0-32	2.5 Y 4/2	100					sand	
							·	
				. <u> </u>				
							·	
							·	
	Concentration, D=Depleti					ns ² Lo	ocation: PL=Pore Lining, M=Matrix	,
	Soil Indicators: (Applic	able to all LRRs			d.)		Indicators for Problematic Hydric Soil	ls':
	stosol (A1)	Ĺ		Redox (S5)			$\square 1 \text{ cm Muck (A9) (LRR C)}$	
	stic Epipedon (A2)	L		d Matrix (S6)			2 cm Muck (A10) (LRR B)	
	ack Histic (A3)			Mucky Miner			Reduced Vertic (F18)	
	drogen Sulfide (A4)			Gleyed Matri			Red Parent Material (TF2)	
	atified Layers (A5) (LR			ed Matrix (F3)			Other (Explain in Remarks)	
	m Muck (A9) (LRR D)			Dark Surface				
	pleted Below Dark Surf	ace (A11)		d Dark Surfac				
	ick Dark Surface (A12)			Depressions (F8)			
	ndy Mucky Mineral (S1)		Vernal	Pools (F9)			³ Indicators of hydrophytic vegetation and	
🗌 San	ndy Gleyed Matrix (S4)						wetland hydrology must be present, unless	
							disturbed or problematic.	
	ve Layer (if present):							
Type:								
Depth (i	inches):						_	_
							Hydric Soil Present? Yes 🗌 N	[0 🛛
Remarks:								
No redox	in soil. No redox along	g living roots. So	il appears l	nighly permea	ble.			
HYDRO	DLOGY							
XX 7.41	TT 1 1							
	Hydrology Indicators		-111 414	1)				
	Indicators (minimum of	one required; che					Secondary Indicators (2or more requ	uireu)
	ace water (A1)	Ļ		ist (B11)			Water Marks (B1) (Riverine)	`
	n water Table (A2)	Ļ		Crust (B12)	(510)		Sediment Deposits (B2) (Riverin	ne)
	ration (A3)	ļ		Invertebrates			Drift Deposits (B3) (Riverine)	
	er Marks (B1) (Nonrive	-		en Sulfide Od			Drainage Patterns (B10)	
	ment Deposits (B2) (No			d Rhizosphere		ing Roots		
	t Deposits (B3) (Nonriv	verine)		e of Reduced			Crayfish Burrows (C8)	
	ace Soil Cracks (B6)	[Iron Reductio		oils (C6)	Saturation Visible-Aerial Imager	y (C9)
	dation Visible on Aaria	1 Imagamy (D7)	Thin M	ual Surface (77)		Shallow Aquitard (D3)	

Inundation Visible on Aerial Imagery (B7)Imagery (B7)Water-Stained Leaves (B9)Imagery (B7)Other (Explain in Remarks) Shallow Aquitard (D3) FAC-Neutral test (D5) Water-Stained Leaves (B9) Field Observations: NoImage: Depth (inches):NoImage: Depth (inches): Yes 🗌 Yes 🗍 Surface Water Present? Water Table Present? Saturation Present? Yes 🗌 No Depth (inches): Wetland Hydrology Present? Yes 🗌 No 🖾 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available: Remarks: No inundation visible on Google Earth images.

WETLAND I	DETERMINA	TION DATA	A FORM – <mark>A</mark>	arid West Region	
		Wetland Det			
				eation Manual)	Data: 10 Day 2014
				y Status CA Sampling	
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates					
Investigator(s): Mike Bower, Noosheen Pouya				hip, Range: See Report	
				, convex, none): <u>none</u>	
Subregion (LRR): <u>C</u>	Lat: <u>S</u>	ee Report		Long:	
Soil Map Unit Name: Capay silty clay				NWI classification:	
Are climatic/hydrologic conditions on the site typical					
Are Vegetation Soil , Or Hydrology Sig				'Normal Circumstances" p	
Are Vegetation Soil , Or Hydrology Na	turally proble	matic?	(If ne	eeded, explain any answers	s in remarks.)
SUMMARY OF FINDINGS – Attach site may	n showing s	ampling po	oint location	ns. transects. important f	features, etc.
Hydrophytic Vegetation Present? Yes			<u>/////////////////////////////////////</u>	no, crunoceus, importune i	
Hydric Soil Present? Yes			the Sample	ad Area	
Wetland Hydrology Present? Yes			within a We		No 🖂
Remarks:					
Kontarks.					
VEGETATION					
	Absoluto	Dominant	Indicator		
Tree Stratum: ((Plot size:)	% Cover		Status	Dominance Test workshee	et:
1		~		Number of Dominant Speci	es
2.				That Are OBL, FACW or F	AC: 0 (A)
3.				Total Number of Dominant	
4				Species Across All Strata:	<u> </u>
				Percent of Dominant Specie	
Total Cover:		-		That Are OBL, FACW, or I	FAC: 0% (A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index workshe	act.
Saping/Sill ub Stratum. (Flot size)				Total % Cover of:	Multiply by:
1					munipij og.
2.			·	OBL Species:	x 1 =
3.					
4				FACW Species	x 2 =
5					
				FAC Species	x 3 =
Total Cover:		_			
Hard Charteness (DL) is 100 1				FACU Species	x 4 =
Herb Stratum: (Plot size: 10' radius)				UPL Species	x 5 =
1. Leontodon saxatilis	30	D	FACU		X J =
2. Erodium cicutarium	15	<u>D</u>	UPL	Column Totals:	(A) (B)
3. Unknown annual grass seedlings	15	D			(-) (-)
4. <i>Trifolium</i> sp. (possibly <i>Medicago</i> sp.)	1		FAC	Prevalence Index = B/A	A =
5.				Hydrophytic Vegetation Inc	
6				Dominance Test is >	
7				Prevalence Index is	
8	<u> </u>		<u> </u>	data in Remarks or on a	otations ¹ (Provide supporting
Total Cover:	62				hytic Vegetation ¹ (Explain)
Total Cover.	02	-			nyuc vegetation (Explain)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil at	nd wetland hydrology
				must be present.	ia notuna nyarorogy
1					
2				Hydrophytic	
Total Cover:		-		Vegetation	
% Bare Ground in Herb Stratum 40 %	6 Cover of Bi	otic Crust 0)	Present? Yes	No 🛛

Remarks:

Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

	scription: (Describe t	he depth neede				sence of In	dicators.)	
Depth Matrix Redox Features								
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	2.5 Y 4/2	100					Sandy loam	
4-32	2.5 Y 4/2	100					Sand	
¹ Type : C=	Concentration, D=Dep	oletion, RM=Re	duced Matrix, CS=Co	overed or Coa	ated Sand Grain	ns ² Lo	cation: PL=Pore Lining, M	=Matrix
	oil Indicators: (Ap						Indicators for Proble	
	tosol (A1)			edox (S5)			1 cm Muck (A9)	
	tic Epipedon (A2)			Matrix (S6)		\square 2 cm Muck (A10)	
	ck Histic (A3)			Aucky Mine			Reduced Vertic (I	
	drogen Sulfide (A4)			Gleyed Matr			Red Parent Mater	
	atified Layers (A5) (l Matrix (F3			Other (Explain in	
	m Muck (A9) (LRR			ark Surface				(Ciliarks)
	pleted Below Dark S			l Dark Surfa				
	ck Dark Surface (A)			epressions				
				ools (F9)	(Го)		³ T	4
	dy Mucky Mineral			001S (F9)			³ Indicators of hydrophy	
San	dy Gleyed Matrix (S	54)					wetland hydrology must disturbed or problemati	
Doctrictio	ve Layer (if presen	t)•					uistui beu or probleman	
Type:	ve Layer (ii presen	·)•						
Depth (in	nahaa).							
Depth (I	ncnes):		_					
D 1							Hydric Soil Present?	Yes 🗌 No 🖾
Remarks:								
No redox	in soil. No redox a	long living roo	ots. Soil appears hi	ighly perme	able.			
HYDRC	DLOGY							
Wetler	Hudualaan Indiaa4	0.110						
	Hydrology Indicat		adu abaalt all that a	nnl)			Secondam, I. J.	
r rimary I	ndicators (minimum	i oi one requir	eu; cneck an that a	ppiy)			Secondary Indica	tors (2or more required)

wenand frydrology mulcators.			
Primary Indicators (minimum of one required; che	Secondary Indicators (2or more required)		
Surface water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)	
High water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)	
Saturation (A3)	Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)	
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)	
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living	g Roots (C3) Dry-Season Water Table (C2)	
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)	
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled Soil	ls (C6) Saturation Visible-Aerial Imagery (C9))
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Water-Stained Leaves (B9)	Other (Explain in Remarks)	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):	Wetland Hydrology Present? Yes 🗌 No	\triangleright
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitorir	ng well, aerial photos, previous inspection	ons, if available:	
Remarks:			
No indicators.			
US Army Corps of Engineers		Arid West – Version 2.0	

WETLAND D				arid West Region		
(Cartantan		Wetland Det		antian Manual)		
Project/Site: Mace Ranch Innovation Center				eation Manual) y Sampling Date:	: 10 Dec	2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates						6
				ip, Range: See Report		0
Landform (hillslope, terrace, etc.): Terrace				, convex, none): none		0
	Lat: S				Datum:	
Soil Map Unit Name: Capay silty clay	Dut. <u>5</u>	ee Report		NWI classification: None		
Are climatic/hydrologic conditions on the site typical	for this time	of the year?	Yes 🕅 N			
Are Vegetation Soil Soil Are Vegetation Soil Soil Soil Soil Soil Soil Soil Soil		-		'Normal Circumstances'' preser		No 🗌
Are Vegetation Soil , Or Hydrology Nat	-			eeded, explain any answers in r		
SUMMARY OF FINDINGS – Attach site maj			oint location	ns, transects, important featu	res, etc.	
Hydrophytic Vegetation Present? Yes						
Hydric Soil Present? Yes			the Sample		5-7	
Wetland Hydrology Present? Yes Remarks:			within a We	tland? Yes No		
Remarks.						
VEGETATION						
	Absolute	Dominant	Indicator			
Tree Stratum: ((Plot size:)		Species?	Status	Dominance Test worksheet:		
1				Number of Dominant Species		
2.				That Are OBL, FACW or FAC:	1	(A)
3				Total Number of Dominant	2	(D)
4				Species Across All Strata: Percent of Dominant Species	2	(B)
Total Cover:		_		That Are OBL, FACW, or FAC:	50%	(A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet: Total % Cover of:	Multiply b	v.
1					Multiply 0	<i>y</i> .
2.				OBL Species:	x 1 =	
3						
4				FACW Species	x 2 =	
5				FAC Species	x 3 =	
Total Cover:				TAC Species	_ x J =	
		_		FACU Species	x 4 =	
Herb Stratum: (Plot size: 10' radius)				·		
		_	~	UPL Species	x 5 =	
1. Rumex crispus 2. Carduus pycnocephalus ssp. pycnocephalus	45	 	FAC	Column Totala	(\mathbf{A})	(D)
 Carauus pycnocepnatus ssp. pycnocepnatus Centaurea solstitialis 	$\frac{3}{3}$	D	UPL UPL	Column Totals:	(A)	(B)
4. Unknown annual grass seedlings	2			Prevalence Index = $B/A =$		
5. Lepidium latifolium	2		FAC	Hydrophytic Vegetation Indicate	ors:	
6. <i>Trifolium</i> sp. (possibly <i>Medicago</i> sp.)	1		FAC	Dominance Test is >50%		
7. Geranium dissectum	1		UPL	Prevalence Index is $\leq 3.0^1$	1	
8				Morphological Adaptation data in Remarks or on a sepa	ns' (Provide su	upporting
Total Cover:	18			Problematic Hydrophytic		(Explain)
		-			U	
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil and we	tland hydrol	ogy
1				must be present.		
1				Undrophytic		
2 Total Cover:				Hydrophytic Vegetation		
	$6 \overline{\text{Cover of Bi}}$	otic Crust ()	Present? Yes	No	\boxtimes
Remarks:				·		

Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

	scription: (Describe t	he depth need	ed to document the			osence of I	ndicators.)	
Depth	Matrix	%	Calar (c:-+)	Redox Featur		Loc ²	Territure	Dama-1
Inches	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc	Texture	Remarks
0.1	$25 \sqrt{2}$	100					Cilty alay loom	
0-1	2.5 Y 3/2	100					Silty clay loam	
1-14	2.5 Y 4/3	100					Silty clay loam	
1-14	2.5 1 4/5	100		<u> </u>	·		Sitty etay toani	
		. <u></u>						
		. <u></u>						
		. <u></u>						
		. <u></u>						
1 Type : C=	Concentration, D=Dep	letion_RM=R	educed Matrix CS=C	overed or Co	ated Sand Grai	ns ² Lo	ocation: PL=Pore Lining, M=N	Matrix
	oil Indicators: (Ap						Indicators for Problem	
	tosol (A1)	plicable to a		edox (S5)	.u.)		\square 1 cm Muck (A9) (I	
	tic Epipedon (A2)			Matrix (S6)		\square 2 cm Muck (A10) (
	ck Histic (A3)			Mucky Mine			Reduced Vertic (FI	
	lrogen Sulfide (A4)			Gleyed Matr			Red Parent Materia	,
	tified Layers (A5) (LRR C)		d Matrix (F3			Other (Explain in F	
	n Muck (A9) (LRR			Dark Surface				(cinarias)
	eted Below Dark S	,		d Dark Surfa				
-	ck Dark Surface (Al	· · ·		Depressions				
	dy Mucky Mineral (Pools (F9)	(10)		³ Indicators of hydrophyti	c vegetation and
	dy Gleyed Matrix (S			0015 (1))			wetland hydrology must h	
	dy Gleyed Mains ()					disturbed or problematic.	
Restrictiv	ve Layer (if present	t):					•	
Type:	• • •							
Depth (in	nches):							
· ·	·		_				Hydric Soil Present?	Yes 🗌 No 🖾
Remarks:							•	
Live roots	s present, but no red	ox.						
	•							
<u> </u>								
HYDRO	DLOGY							
	Hydrology Indicat		1 1 1 1 1	1 \				
	ndicators (minimum	ot one requi						ors (2or more required)
	ace water (A1)		Salt Crus	· · ·			Water Marks (B	, , ,
	water Table (A2)			rust (B12)				sits (B2) (Riverine)
	ration (A3)			Invertebrate			Drift Deposits (
	er Marks (B1) (Noni			n Sulfide O			Drainage Patter	
	ment Deposits (B2)				res along Liv		(C3) \Box Dry-Season Wa	

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2or more requi	red)	
$\Box \text{ Surface water (A1)} \qquad \Box \text{ Salt Crust (B11)}$	<u> </u>	Water Marks (B1)		<u> </u>	
High water Table (A2)		Sediment Deposits	· /	e)	
Saturation (A3)		Drift Deposits (B3)		,	
Water Marks (B1) (Nonriverine)		Drainage Patterns (
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Li	ving Roots (C3)	Dry-Season Water			
Drift Deposits (B3) (Nonriverine)	ε	Crayfish Burrows (· · ·		
Surface Soil Cracks (B6)	Soils (C6)	Saturation Visible-	Aerial Imagery	(C9)	
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)		Shallow Aquitard (D3)		
Water-Stained Leaves (B9) Other (Explain in Remarks)		FAC-Neutral test (I	D5)		
Field Observations:					
Surface Water Present? Yes 🗌 No 🛛 Depth (inches):					
Water Table Present? Yes No X Depth (inches):					
Saturation Present? Yes No X Depth (inches):	Wetland Hyd	lrology Present?	Yes 🗌	No 🗌	
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections, if availab	le:			
Remarks:					
No inundation visible on Google Earth images. Drift deposits considered riverine because they were associated with extreme high water in Mace					
Drainage Channel.					

Applicant/Corner Yeals State: CA Sampling Point: 7 Investigator(s): Mike Borer, Ninoheen Pouya Section, Township, Range: Sec Report	WETLAND D				arid West Region		
ProjectNie: Make Ranch Immovation Cemer City(Comy): Yolo County: Sampling Date: 10 Dec 2014 Applicant/Owner: Yolo 101 JV, co'the Buzz Oates Group of Companies State: CA Sampling Date: 10 Dec 2014 Applicant/Owner: Yolo 101 JV, co'the Buzz Oates Group of Companies State: CA Sampling Date: 10 Dec 2014 Nersitigatoris: Mile Bover, Nooshen Touya Section, Township, Range: See Report Jone: Date: Jone: Date: Jone: Date: Jone: Jone: Date: Jone: Jon	(Cantanihan				antian Manual)		
Applicative Cvere: You D1 /V. c'o The Buze Caues Group of Companies State: CA Sampling Point: 7 Investigator(s): Mike Boner, Nonsheen Pouya Section, Township, Range: See Report					,	10 Dec	2014
Investigator(s): Mike Bower, Noosheen Pouya Section, Toomship, Range: See Report Landform (hildspic trance, etc.): Terrace Load relief (concave, convex, none): None Sold May Unit Name: Cagas silly clay NWT classification: None Are Vegetation Soil I. Or Hydrolog: None None Are Vegetation Soil I. Or Hydrolog: None Iff needed, explain any answers in remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? No Hydrophytic Vegetation Present? Yes No Is the Sampled Area Wetland Hydrology Present? Yes No Indicator Yees Stratum: (Pot size: Yes No No 1.	· · · · · · · · · · · · · · · · · · ·						
Landform (hillslops, terrace, etc.): Terrace Local relief (concave, convex, nons): none Slope (%): 0 Subregion (LRR): C Lat: See Report Long: Datum: Subregion (LRR): C NWI classification: None NWI classification: None Are climatichydrologic couditions on the site typical for this time of the year? Yes Sone No (ff needed, explain any answers in remarks.) No Are Vegetation Soil C Or Hydrology Singificanty disturber? No (ff needed, explain any answers in remarks.) No SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrolypic Vegetation Present? Yes No No Hydrolypic Vegetation Present? No							,
Subregion (LRR): C							0
Soil Map Uuir Name: Capy sitty clay		Lat: S					
Ace clinatichydrologic conditions on the site rypical for this time of the year? Yes		Lat. <u>5</u>					
Are Vegetation Soil Or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No SUMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrohytic Vegetation Present? Yes No Hydrohytic Vegetation Present? Yes No Ite sampled Area Wetland Hydrology Present? Yes No Within a Wetland? Yes No Vestant Hydrohytic Vegetation Present? Yes No Within a Wetland? Yes No Vestant Hydrology Present? Yes No Within a Wetland? Yes No Vestations Mosolute Dominant Indicator Number of Dominant Species Number of Dominant Species (A) 2		for this time o	of the year?	Yes 🕅 N			
Are Vegetation □ Soil □, Or Hydrology □ Naturally problematic? (If needed, explain any answers in remarks.) SUMMARY OF FINDINCS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes □ No ☑ Hydrophytic Vegetation Present? Yes □ No ☑ Wetland Hydrology Present? Yes □ No ☑ VECETATION			-				No 🗌
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No No Image: Stratum strate in the sampled Area Hydrophytic Vegetation Present? Yes No Image: Stratum strate in the sampled Area Vestiand Hydrology Present? Yes No Image: Stratum strate in the sampled Area Vestiant Hydrology Present? Yes Dominant Indicator Dominant Species 1		-					
Hydrophytic Vegetation Present? Yes No ⊠ Is the Sampled Area Wetland Hydrology Present? Yes No Within a Wetland? Yes No ⊠ VEGETATION Tree Stratum: (Plot size:							
Hydric Soil Present? Yes No ⊠ Is the Sampled Area Wetland Hydrology Present? Yes No within a Wetland? Yes No ⊠ Remarks:				oint location	ns, transects, important featu	res, etc.	
Wetland Hydrology Present? Yes No within a Wetland? Yes No Remarks: VEGETATION Tree Stratum: (IPot size:			_				
Remarks:	-						
VEGETATION Tree Stratum: (iPlot size:) Absolute % Cover Dominant Species? Indicator Status Dominance Test worksheet: Number of Dominant Species 1.				within a We	tland? Yes No		
Tree Stratum: (Plot size:	Remarks.						
Tree Stratum: (Plot size:							
Tree Stratum: ((Plot size:	νεσετλτιον						
Irrestratum: (Piol size:		Absolute	Dominant	Indicator			
2.	Tree Stratum: ((Plot size:)				Dominance Test worksheet:		
2. That Are OBL, FACW or FAC: 1 (A) 3. Total Number of Dominant Figure of Dominant Species Across All Strata: 2 (B) Formation of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B) Sanling/Shrub Stratum: (Plot size:) 1.	1						
4.	2.				-	1	(A)
Total Cover:						•	
Total Cover: That Are OBL, FACW, or FAC: 50 (A/B) Sapling/Shrub Stratum: (Plot size:))) 1.	4				-	2	(B)
I.	Total Cover:		_			50	(A/B)
2.	Sapling/Shrub Stratum: (Plot size:)					Multiply b	y:
3.							
4.					OBL Species:	x 1 =	
5.	1				EACW Spacies	v 2 –	
Total Cover: FAC Species x 3 = Total Cover: 1. Conium maculatum 3 FACW 2. Leontodon saxatilis 1 FACU 3. Silybum marianum 2 UPL 4. Lepidium latifolium 5 D 5. Unknown annual grass seedlings 1 - 6. Trifolium sp. (possibly Medicago sp.) 1 FACU 7. Lactuca serriola 5 D FACU 8.						<u> </u>	
Total Cover:					FAC Species	x 3 =	
Herb Stratum: (Plot size:10' radius) UPL SpeciesX 5 = 1. Conium maculatum	Total Cover:				·		
1. Conium maculatum 3 FACW 2. Leontodon saxatilis 1 FACU 3. Silybum marianum 2 UPL 4. Lepidium latifolium 5 D 5. Unknown annual grass seedlings 1 6. Trifolium sp. (possibly Medicago sp.) 1 FACU 7. Lactuca serriola 5 D FACU 8. FACU Dominance Test is >50% 9. FACU Prevalence Index is $\leq 3.0^1$ 8. Hydrophytic Vegetation Indicators: 1. Yoodv Vine Stratum: (Plot size:) 1. 7. Total Cover: 1. 1. 1. 2. 3.			_		FACU Species	x 4 =	
1. Conium maculatum 3 FACW 2. Leontodon saxatilis 1 FACU 3. Silybum marianum 2 UPL 4. Lepidium latifolium 5 D 5. Unknown annual grass seedlings 1 6. Trifolium sp. (possibly Medicago sp.) 1 FAC 7. Lactuca serriola 5 D 8.	Herb Stratum: (Plot size: 10' radius)					-	
2. Leontodon saxatilis 1 FACU Column Totals: (A) (B) 3. Silybum marianum 2 UPL Prevalence Index = B/A = 4. Lepidium latifolium 5 D FAC Prevalence Index = B/A = 5. Unknown annual grass seedlings 1 Hydrophytic Vegetation Indicators: 6. Trifolium sp. (possibly Medicago sp.) 1 FAC Dominance Test is >50% 7. Lactuca serriola 5 D FACU Prevalence Index is ≤3.0 ¹ 8.	1 Conjum magulatum	2		EACW	UPL Species	_ x 5 =	
3. Silybum marianum 2 UPL 4. Lepidium latifolium 5 D FAC 5. Unknown annual grass seedlings 1 6. Trifolium sp. (possibly Medicago sp.) 1 FAC 7. Lactuca serriola 5 D FACU 8.					Column Totals:	(A)	(B)
5. Unknown annual grass seedlings 1 Hydrophytic Vegetation Indicators: 6. Trifolium sp. (possibly Medicago sp.) 1 FAC Dominance Test is >50% 7. Lactuca serriola 5 D FACU Prevalence Index is ≤3.0 ¹ 8.						_ (1 -)	(2)
6. Trifolium sp. (possibly Medicago sp.) 1 FAC □ Dominance Test is >50% 7. Lactuca serriola 5 D FACU □ Prevalence Index is ≤3.0 ¹ 8.		5	D	FAC			
7. Lactuca serriola 5 D FACU □ Prevalence Index is ≤3.0 ¹ 8.		1				rs:	
8. Image: Constraint on the system of th							
Total Cover: 18 data in Remarks or on a separate sheet) Woody Vine Stratum: (Plot size:) Problematic Hydrophytic Vegetation ¹ (Explain) 1. Indicators of Hydric soil and wetland hydrology must be present. 2. Total Cover: % Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0			<u>D</u>	FACU		ns ¹ (Provide s	upporting
Total Cover: 18 Problematic Hydrophytic Vegetation ¹ (Explain) Woody Vine Stratum: (Plot size:) Indicators of Hydric soil and wetland hydrology must be present. 1.	0				data in Remarks or on a sepa	rate sheet)	upporting
1.	Total Cover:	18	_		Problematic Hydrophytic	Vegetation ¹	(Explain)
1.	Woody Vine Stratum: (Plot size:)					tland hydrol	ogy
2. Total Cover: Hydrophytic % Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0 Present? Yes No	1				<u> </u>		
Total Cover: Vegetation % Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0 Present? Yes No 🖂	2.						
					Vegetation	'	
	% Bare Ground in Herb Stratum 80 % Remarks:	6 Cover of Bi	otic Crust ()	Present? Yes	No	

Only live vegetation from 2014-2015 growing season recorded. Previous season's vegetation mowed, mostly dead. Unknown grass seedlings with unknown wetland indicator status recorded, but excluded from analysis.

	escription: (Describe the	ne depth need				bsence of Iı	ndicators.)	
Depth Inches	Matrix Color (moist)	%	Color (moist)	Redox Featur	Type ¹	Loc ²	Texture	Remarks
menes		/0		/0	Type	Loc	Texture	Kelliarks
0-7	2.5 Y 3/2	100					Clay	
	210 1 0/2	100						
7-14	2.5 Y 4/4	100					Clay	
							,,	
¹ Type : C=	Concentration, D=Dep	letion, RM=R	educed Matrix, CS=C	overed or Coa	ted Sand Grai	ins ² Lo	cation: PL=Pore Lining, M=M	atrix
His His Bla Hyu Stra C Dep Dep Thi Sar Sar	oil Indicators: (App tosol (A1) tic Epipedon (A2) ck Histic (A3) drogen Sulfide (A4) atified Layers (A5) (I m Muck (A9) (LRR pleted Below Dark Si ck Dark Surface (A1 ady Mucky Mineral (ady Gleyed Matrix (S	L RR C) D) urface (A11) 2) S1) 4)	Sandy R Stripped Loamy I Loamy G Depleted Redox D Redox D Redox D	erwise note edox (S5) Matrix (S6) Mucky Mine Eleyed Matri Matrix (F3 Dark Surface Dark Surface Dark Surfa Depressions (Pools (F9)	ral (F1) ix (F2)) (F6) ce (F7)		Indicators for Problema 1 cm Muck (A9) (LI 2 cm Muck (A10) (I Reduced Vertic (F18 Red Parent Material Other (Explain in Regime) ³ Indicators of hydrophytic wetland hydrology must be disturbed or problematic.	RR C) LRR B) 3) (TF2) emarks) vegetation and
	ve Layer (if present):						
Type:								
Depth (1	nches):		_				Hadada Call Damade	
Remarks:							Hydric Soil Present?	Yes No
	in soil. No redox al	ong living re	oots					
110 1000		ong nying it						

HYDROLOGY

Wetland Hydrology Indicators:				
Primary Indicators (minimum of one required; check	all that apply)	Secondary Indicators (2or more required)		
Surface water (A1)	Salt Crust (B11)		Water Marks (B1) (Riverine)	
High water Table (A2)	Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)	
Saturation (A3)	Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)	
	Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)	
	Oxidized Rhizospheres along Living	g Roots (C3)	Dry-Season Water Table (C2)	
	Presence of Reduced Iron (C4)		Crayfish Burrows (C8)	
	Recent Iron Reduction in Tilled Soi	ls (C6)	Saturation Visible-Aerial Imagery (C9)	
	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
	Other (Explain in Remarks)		FAC-Neutral test (D5)	
Field Observations:				
Surface Water Present? Yes No				
Water Table Present? Yes No	· · · · ·			
Saturation Present? Yes No	Depth (inches):	Wetland Hyd	rology Present? Yes 🗌 No 🖂	
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring w	well, aerial photos, previous inspecti	ons, if availabl	e:	
Remarks:				

WETLAND DETERMINATION DATA	FORM – Arid	West Region
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Routine Wetland Determination

(September 2008 V2.0 COE Arid West Wetlands Delineation Manua	ıl)
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Project/Site: Mace Ranch Innovation Center C	City/County:	Yolo County		Sampling Date:	10 Dec 2014			
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates Group of Co	ompanies		State: CA	Sampling Point:	8			
Investigator(s): Mike Bower, Noosheen Pouya Section, Township, Range: See Report								
Landform (hillslope, terrace, etc.): Terrace	Local rel	lief (concave, con	vex, none): <u>no</u>	one Slop	e (%): 0			
Subregion (LRR): C Lat:	See Report	Lor	ng:	Datur	m:			
Soil Map Unit Name: Capay silty clay			NWI clas	sification: None				
Are climatic/hydrologic conditions on the site typical for this time	of the year?	Yes 🛛 No 🗌] (If no, exp	lain in remarks.)				
Are Vegetation \boxtimes Soil \boxtimes , Or Hydrology \square Significantly dis	sturbed?	Are "Nor	mal Circums	stances" present? Y	es 🛛 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 🖂	Is the Sampled Area		
Wetland Hydrology Present?	Yes	No 🖂	within a Wetland?	Yes 🗌	No 🖂
Remarks: Data point located in recently tilled a	agricultural field	1.			

Tree Stratum: ((Plot size:)	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
1			Status	Number of Dominant Species		
1				That Are OBL, FACW or FAC:	0	(A)
3.				Total Number of Dominant		_ (1-)
3				Species Across All Strata:	4	(B)
	·			Percent of Dominant Species		_ (D)
Total Cover:		_		That Are OBL, FACW, or FAC:	0%	(A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet:		
				Total % Cover of:	Multiply b	y:
1						
2				OBL Species:	x 1 =	
3		·		FACWG :	2	
4				FACW Species	x 2 =	
5				FAC Species	x 3 =	
Total Cover:		_				
				FACU Species	x 4 =	
Herb Stratum: (Plot size: 10' radius)					_	
		Ð	LIDI	UPL Species	x 5 =	
1. <u>Convolvulus arvensis</u>	1	<u>D</u>	UPL		(•)	(D)
2. Silybum marianum	<u> </u>	D	UPL	Column Totals:	(A)	(B)
3. Brassica sp. 4. Triticum aestivum	$\frac{1}{2}$	<u>D</u>	UPL UPL	Prevalence Index = $B/A =$		
5				Hydrophytic Vegetation Indicator	ra •	
(Dominance Test is >50%	15.	
7				$\square Prevalence Index is \leq 3.0^{1}$		
7 8.				Morphological Adaptation	s ¹ (Provide s	innorting
8	·		<u> </u>	data in Remarks or on a separ		ipporting
Total Cover:	5	_		Problematic Hydrophytic		(Explain)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil and we	tland hydrol	ogy
				must be present.	liuliu liyuloh	-0J
1						
2				Hydrophytic		
Total Cover:				Vegetation		
	Cover of Bi			Present? Yes		\boxtimes
Remarks: Vegetation based on seedlings sprouting in cultivation, dominated by upland ruderal plants.	recently tille	d agricultura	l field. Near	by areas in similar topographic pos	sition, outsid	le

Profile De Depth	escription: (Describe t Matrix	he depth need		ndicator or Redox Featur		bsence of I	ndicators.)	
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0.15	25 X 2/2	75					alay	
0-15	2.5 Y 3/2	75					clay	
0-15	2.5 Y 4/2	25					clay	
·								
	Concentration, D=Dep oil Indicators: (Ap					ins ² L	ocation: PL=Pore Lining, M=M Indicators for Problema	
	tosol (A1)	incable to al		edox (S5)	eu.)		\square 1 cm Muck (A9) (L	
🗌 His	tic Epipedon (A2)			Matrix (S6)		2 cm Muck (A10) (I	
	ck Histic (A3)			Aucky Mine			Reduced Vertic (F1	
	drogen Sulfide (A4)			Gleyed Matr			Red Parent Material Other (Explain in R	
	atified Layers (A5) (m Muck (A9) (LRR			l Matrix (F3 Park Surface			U Other (Explain in R	emarks)
	pleted Below Dark S			l Dark Surfa				
	ck Dark Surface (Al		Redox D	epressions				
	ndy Mucky Mineral (U Vernal P	ools (F9)			³ Indicators of hydrophytic	
San San	ndy Gleyed Matrix (S	54)					wetland hydrology must b disturbed or problematic.	e present, unless
Restricti	ve Layer (if present	:):					usturbed of problematic.	
Type:	<u> </u>							
Depth (i	nches):		-				Hydric Soil Present?	Yes 🗌 No 🗵
Remarks:							Hydric Son Fresent:	
Tilled ag	ricultural field; soil r	nixed.						
HYDRO	DLOGY							
Wetland	Hydrology Indicat	ors:						
	ndicators (minimum	of one requir						rs (2or more required)
	ace water (A1)		Salt Crus				Water Marks (B)	
	water Table (A2) ration (A3)			rust (B12) Invertebrate	s (B13)		Drift Deposits (E	its (B2) (Riverine)
	er Marks (B1) (Non	iverine)		n Sulfide O			Drainage Pattern	
	ment Deposits (B2)				res along Liv	ing Roots		
	Deposits (B3) (Nor			of Reduced		0	Crayfish Burrow	
	ace Soil Cracks (B6)				on in Tilled S	Soils (C6)		le-Aerial Imagery (C9)
=	dation Visible on Ae	•••	· · <u>=</u>	ck Surface (Shallow Aquitar	
Wate	er-Stained Leaves (B	9)	U Other (E	xplain in Re	emarks)		FAC-Neutral tes	t (D5)

No Depth (inches):

No \square Depth (inches): No $\overline{\boxtimes}$ Depth (inches):

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

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Field Observations: Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Remarks:

Yes 🗌 Yes 🗍

Yes 🗌

Yes 🗌 No 🖾

Wetland Hydrology Present?

(Sentember	Routine V 2008 V2.0 COE	Wetland Dete		eation Manual)			
Project/Site: Mace Ranch Innovation Center				,	Sampling Date:	10 Dec	2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates					Sampling Po		
	o enoup or eor			nip, Range: See R			
				, convex, none): <u>n</u>			0
Subregion (LRR): C				_Long:			
Soil Map Unit Name: Tyndall very fine sandy loam,					ssification: None		
Are climatic/hydrologic conditions on the site typical							
Are Vegetation Soil , Or Hydrology Sig		-		'Normal Circums			No 🗌
Are Vegetation Soil , Or Hydrology Na	turally probler	natic?	(If ne	eeded, explain an	y answers in re	marks.)	
SUMMADV OF EINDINGS Attach site me	- chowing of		int location				
SUMMARY OF FINDINGS – Attach site ma Hydrophytic Vegetation Present? Yes			Int location	ns, transects, m	рогтант театы	res, etc.	
Hydropnytic Vegetation Present? Yes Hydric Soil Present? Yes			the Comple	1 1 100			
Wetland Hydrology Present? Yes			the Sample within a We		No	\bigtriangledown	
Remarks:							
VEGETATION							
Tree Stratum: ((Plot size:)		Dominant	Indicator	Dominance Test	t worksheet.		
	% Cover		Status				
1. 2.				Number of Domi That Are OBL, F	inant Species	1	(•)
	<u> </u>			Total Number of	ACW OFFAC.	1	_ (A)
3	<u> </u>	·		Species Across A		1	(B)
··	·			Percent of Domin	nant Species		_ ` ´
Total Cover:		-		That Are OBL, F		100%	(A/B)
				Durana Inde			
Sapling/Shrub Stratum: (Plot size:)				Prevalence Inde Total % Cover of		Multiply b	NV.
1				1000 /0 00000	1.	manpij -	·y.
2.				OBL Species:		x 1 =	
3							
4 5			. <u> </u>	FACW Species		x 2 =	
5	<u> </u>			FAC Species		x 3 =	
Total Cover:				FAC Species		x	
10001 00.01.		•		FACU Species		x 4 =	
Herb Stratum: (Plot size: 10' radius)						· · · · · · · · · · · · · · · · · · ·	
	_	_		UPL Species		x 5 =	
1. Lepidium latifolium 2. Brassica sp.	5	<u>D</u>	FAC UPL	Column Totals:			(B)
		<u>D</u>	UPL	Column Totals:		(A)	(B)
3. 4.	·			Prevalence I	Index = B/A =		
5.				Hydrophytic Veg	getation Indicator	s:	
6.					ce Test is >50%		
7					the Index is $\leq 3.0^1$	1	
8					ogical Adaptation narks or on a separ		upporting
Total Cover:	6				tic Hydrophytic		(Explain)
					ue 119010p9	· egetation	(Enp)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hy		land hydrol	logy
				must be present.			
1			. <u> </u>				
2 Total Cover:	<u> </u>		·	Hydrophytic Vegetation			
	% Cover of Bio	otic Crust 0)	Present?	Yes 🖂	No	
Remarks:							<u> </u>
Dead plants from last season cover half of the ground	d.						

		he depth need	led to document the I			bsence of I	ndicators.)	
Depth	Matrix			Redox Featu		• 2		
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0.16	10 VD 4/2	100					cilty loom	
0-16	10 YR 4/3	100					silty loam	
	·	<u> </u>			<u> </u>		<u> </u>	
					<u> </u>			
					·	<u> </u>		
					<u> </u>		<u> </u>	
					<u> </u>	<u> </u>		
					<u> </u>		<u> </u>	
¹ Type : C=(Concentration D-Der	lation PM-P	educed Matrix, CS=Co	wered or Co	ated Sand Gra	$\frac{1}{2}$	ocation: PL=Pore Lining, M=	-Matrix
			ll LRRs, unless oth				Indicators for Proble	
	osol (A1)	pilcable to a		edox (S5)	cu.)		\square 1 cm Muck (A9)	
	ic Epipedon (A2)			Matrix (S6	6		$\square 2 \text{ cm Muck (A10)}$	
	k Histic (A3)			Aucky Min			Reduced Vertic (I	
	rogen Sulfide (A4)			Bleyed Mat			Red Parent Mater	
	tified Layers (A5) (LRR C)		Matrix (F.			Other (Explain in	
	n Muck (A9) (LRR			ark Surface				
	leted Below Dark S			Dark Surf				
	k Dark Surface (Al			epressions				
	dy Mucky Mineral (ools (F9)	(10)		³ Indicators of hydrophy	tic vegetation and
	dy Gleyed Matrix (S			0015 (1))			wetland hydrology must	
	aj 010j0a 1.1aann (r	.,					disturbed or problemati	
Restrictiv	e Layer (if present	t):						
Type:								
Depth (in	ches):							
							Hydric Soil Present?	Yes 🗌 No 🖂
Remarks:								
No redox	in soil. No redox al	ong living ro	oots.					
I								
HYDRO	LOGY							
337.41	T.J., T. W. 4							
	Hydrology Indicat		red check all that a	nnly)			Secondary Indian	tors (2or more required)

Wenand Hydrology mulcators.			
Primary Indicators (minimum of one required;	; check all that apply)	Secondary Indicator	s (2or more required)
Surface water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)
High water Table (A2)	Biotic Crust (B12)	Sediment Deposi	ts (B2) (Riverine)
Saturation (A3)	Aquatic Invertebrates (B13)	Drift Deposits (B	
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Drainage Pattern	s (B10)
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living	g Roots (C3) Dry-Season Wate	er Table (C2)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrow	s (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled Soil	ls (C6) Saturation Visibl	e-Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7	7) Thin Muck Surface (C7)	Shallow Aquitare	1 (D3)
Water-Stained Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral test	t (D5)
Field Observations:			
Surface Water Present? Yes	No Depth (inches):		
Water Table Present? Yes	No Depth (inches):		
Saturation Present? Yes	No Depth (inches):	Wetland Hydrology Present?	Yes 🗌 No 🖾
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspection	ons, if available:	
Remarks:			

WETLAND DETERMINATION DATA	A FORM – <mark>Arid</mark>	West Region
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Routine Wetland Determination

Project/Site: Mace Ranch Innovation Center		City/County:	Yolo County		Sampling Date:	10 Dec 2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz	Oates Group of	Companies	State:	CA	Sampling Point:	10
Investigator(s): Mike Bower, Noosheen Pouy	a	Sec	ction, Township, Range:	See Re	port	
Landform (hillslope, terrace, etc.): Terrace		Local re	lief (concave, convex, no	ne): <u>no</u>	one Slop	be (%): 0
Subregion (LRR): C	La	t: See Report	Long:		Datur	m:
Soil Map Unit Name: Sycamore complex, drai	ned		NV	VI class	sification: None	
Are climatic/hydrologic conditions on the site t	ypical for this tir	ne of the year?	Yes 🛛 No 🗌 (If n	o, expl	ain in remarks.)	
Are Vegetation Soil Soil Or Hydrology] Significantly	disturbed?	Are "Normal Ci	rcums	tances" present? Y	les 🛛 No 🗌
Are Vegetation Soil , Or Hydrology] Naturally pro	blematic?	(If needed, expl	ain any	y answers in remai	rks.)
SUMMARY OF FINDINGS – Attach si	te map showin	g sampling p	oint locations, transec	ts, im	portant features,	etc.
Hydrophytic Vegetation Present?	Yes	No 🖂				
Hydric Soil Present?	Yes	No 🛛 I	s the Sampled Area			
Wetland Hydrology Present?	Yes	No 🛛	within a Wetland?	Yes	□ No 🛛	

VEGETATION	Absolute	Dominant	Ter di satar	1		
Tree Stratum: ((Plot size:)	Absolute % Cover	Species?	Status	Dominance Test worksheet:		
1		•		Number of Dominant Species		
2.				That Are OBL, FACW or FAC:	0	(A)
3				Total Number of Dominant		
4		·		Species Across All Strata:	1	(B)
Total Cover:		_		Percent of Dominant Species That Are OBL, FACW, or FAC:	0%	(A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet: Total % Cover of:	Multiply by:	:
1						
2.				OBL Species:	x 1 =	
3						
4		<u> </u>		FACW Species	x 2 =	
5				FAC Species	x 3 =	
Total Cover:		-		FACU Species	x 4 =	
Herb Stratum: (Plot size: 10' radius)				UPL Species	v 5 –	
1. Triticum aestivum	4	D	UPL		x J =	
2. Silybum marianum	1		UPL	Column Totals:	(A)	(B)
3.						
4				Prevalence Index = B/A =		
5				Hydrophytic Vegetation Indicator	rs:	
6	. <u> </u>			Dominance Test is $>50\%$		
7.				Prevalence Index is $\leq 3.0^1$		

7		Prevalence Index is $\leq 3.0^1$ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Total Cover	: <u>5</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum: (Plot size:)		¹ Indicators of Hydric soil and wetland hydrology must be present.
1. 2.		Hydrophytic
Total Cover % Bare Ground in Herb Stratum 95	$\frac{1}{6} \frac{1}{6} \frac{1}$	Vegetation Present? Yes No 🛛

Remarks:

Vegetation based on seedlings sprouting in recently tilled agricultural field. Nearby areas in similar topographic position, outside cultivation, dominated by upland ruderal plants.

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Wetland Hydrology Present?

Profile Description: (Describe the depth nee	eded to document the			bsence of Ind	licators.)	
Depth Matrix Inches Color (moist) %	Color (moist)	Redox Feature %	es Type ¹	Loc ²	Texture	Remarks
		/0	Type	Loc	Texture	Kennarks
0-14 2.5 Y 3/2						
14-30 2.5 Y 4/3				·		
				<u> </u>		
¹ Type : C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=0	Covered or Coat	ted Sand Grai	ins ² Loc	ation: PL=Pore Lining, M=Ma	atrix
Hydric Soil Indicators: (Applicable to					Indicators for Problema	
Histosol (A1)		Redox (S5)			1 cm Muck (A9) (LF	
$\square \text{ Histic Epipedon (A2)}$		d Matrix (S6)			$\square 2 \text{ cm Muck (A10) (L}$	
Black Histic (A3)Hydrogen Sulfide (A4)		Mucky Miner Gleyed Matri			Reduced Vertic (F18 Red Parent Material	
Stratified Layers (A5) (LRR C)		ed Matrix (F3)			Other (Explain in Re	
1 cm Muck (A9) (LRR D)		Dark Surface				indiks)
Depleted Below Dark Surface (A1)		d Dark Surfac				
Thick Dark Surface (A12)		Depressions (I				
Sandy Mucky Mineral (S1)	Vernal	Pools (F9)			³ Indicators of hydrophytic	
Sandy Gleyed Matrix (S4)					wetland hydrology must be	present, unless
Restrictive Layer (if present):					disturbed or problematic.	
Туре:						
Depth (inches):						
					Hydric Soil Present?	Yes No
Remarks: Soil recently tilled. Appears mixed.						
son recently threa. Appears mixed.						
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one requ	uired; check all that	apply)			Secondary Indicators	s (2or more required)
Surface water (A1)	🗌 Salt Cru	ıst (B11)			Water Marks (B1) (Riverine)
High water Table (A2)		Crust (B12)			Sediment Deposit	
Saturation (A3)		Invertebrates			Drift Deposits (B	
Water Marks (B1) (Nonriverine)		en Sulfide Od	· /		Drainage Patterns	
Sediment Deposits (B2) (Nonriverin		d Rhizosphere		ing Roots (
Drift Deposits (B3) (Nonriverine)		e of Reduced Iron Reduction		Coile (C6)	Crayfish Burrows	e-Aerial Imagery (C9)
Inundation Visible on Aerial Imager		uck Surface (C		Solis (CO)	Shallow Aquitard	
Water-Stained Leaves (B9)		Explain in Rei			FAC-Neutral test	
Field Observations:)			()
Surface Water Present? Yes		th (inches):				
Water Table Present? Yes		th (inches):				
Saturation Present? Yes] No 🛛 Dep	th (inches):		Wetland	Hydrology Present?	Yes 🗌 No 🗵
(includes capillary fringe)		-1 -1 -/	· · · ·		-:1-1-1	
Describe Recorded Data (stream gauge, r	nonitoring well, aer	iai pnotos, pre	evious inspe	cuons, if ava	anable:	
Remarks:						

US Army Corps of Engineers

(September		Wetland Dete E Arid West W		eation Manual)
Project/Site: Mace Ranch Innovation Center				ySampling Date: 10 Dec 2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates	Group of Con	mpanies		State: CA Sampling Point: 11
	1	2		nip, Range: See Report
				, convex, none): Linear concave Slope (%): 0
Subregion (LRR): C				
Soil Map Unit Name: Sycamore complex, drained		•		NWI classification: None
Are climatic/hydrologic conditions on the site typical	for this time of	of the year?	Yes 🛛 No	o [] (If no, explain in remarks.)
Are Vegetation Soil , Or Hydrology Sig	nificantly dist	urbed?	Are "	"Normal Circumstances" present? Yes 🛛 No 🗌
Are Vegetation Soil , Or Hydrology Na	turally probler	natic?	(If ne	eeded, explain any answers in remarks.)
SUMMARY OF FINDINGS – Attach site maj			int location	ns, transects, important leatures, etc.
Hydrophytic Vegetation Present? Yes			1 0 1	1.4
Hydric Soil Present? Yes			the Sample within a We	
Wetland Hydrology Present? Yes Remarks:	□ No		a we	etland? Yes 🗌 No 🛛
Kemarks.				
VEGETATION				
	Absolute	Dominant	Indicator	
Tree Stratum: ((Plot size:)	% Cover		Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW or FAC: 1 (A)
3				Total Number of DominantSpecies Across All Strata:11(B)
4				Percent of Dominant Species
Total Cover:		_		That Are OBL, FACW, or FAC: 100% (A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet:Total % Cover of:Multiply by:
1.				Total % Cover of. Multiply by.
2.				OBL Species: x 1 =
3.				
4				FACW Species x 2 =
5				
Total Cover:				FAC Species x 3 =
Total Cover.		-		FACU Species x 4 =
Herb Stratum: (Plot size:5 x10 ft)				
				UPL Species x 5 =
1. Distichlis spicata	90	D	FAC	
2. <u>Hordeum murinum</u> 3. <u>Rumex crispus</u>	3		FACU FAC	Column Totals: (A) (B
4. Brassica sp.	<u> </u>		UPL	Prevalence Index = B/A =
5. Erodium cicutarium	1		UPL	Hydrophytic Vegetation Indicators:
6. Bromus hordeaceus	2		FACU	\square Dominance Test is >50%
7. Asparagus officinalis ssp. officinalis	1		FACU	Prevalence Index is $\leq 3.0^1$
8				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Total Cover:	99			Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover.		-		
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil and wetland hydrology
				must be present.
1				
2				Hydrophytic
Total Cover: % Bare Ground in Herb Stratum 1 9	% Cover of Bio	otic Crust 0		Vegetation Present? Yes No
Remarks:		one crust 0		

	scription: (Describe t	he depth need	led to document the	Indicator or	confirm the a	bsence of In	ndicators.)	
Depth	Matrix			Redox Featur				
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	2.5 Y 4/4				. <u> </u>		Silty loam	
12-16	2.5 Y 4/4						Silt	
					·			
1 Type : C=	Concentration, D=Dep	letion, RM=R	educed Matrix. CS=C	overed or Coa	ated Sand Grai	ins ² Lo	cation: PL=Pore Lining, M=	Matrix
	oil Indicators: (App						Indicators for Problem	
	tosol (A1)			edox (S5)	((1))		1 cm Muck (A9) (
	tic Epipedon (A2)			Matrix (S6)		\square 2 cm Muck (A10)	
	ck Histic (A3)			Mucky Mine			Reduced Vertic (F	
	lrogen Sulfide (A4)			Gleyed Matr			Red Parent Materi	
	tified Layers (A5) (I	(RR C)		d Matrix (F3			Other (Explain in 1	
	n Muck (A9) (LRR			Dark Surface				
	oleted Below Dark S			d Dark Surfa	(-)			
	ck Dark Surface (A1			Depressions				
	dy Mucky Mineral (Pools (F9)	(10)		³ Indicators of hydrophyt	ic vegetation and
	dy Gleyed Matrix (S			0013 (1))			wetland hydrology must	
	uy Oleyeu Maurix (S	(+)					disturbed or problemation	
Restrictiv	ve Layer (if present):						
Type:	• • •	,-						
	nches):							
2 cpm (ii							Hydric Soil Present?	Yes 🗌 No 🖂
Remarks:							inguite boil i reselle.	
	in soil. No redox al	ong living re	oots					
NO ICUOX	III SOIL INO ICUOX di	ong nying re	JOIS.					
HYDRO	LOGY							
Wetland	Hydrology Indicate	ors:						
	ndicators (minimum		ired; check all that a	apply)			Secondary Indicate	ors (2or more required)
	ace water (A1)	1	Salt Crus				Water Marks (I	
				(D10)				(\mathbf{R}) (\mathbf{R}) (\mathbf{R})

Surface water (A1)			lt Crust (B11)			Water Marks (B1) (H	Riverine)	
High water Table (A2)		🗌 Bi	otic Crust (B12)			Sediment Deposits (1	B2) (Riverine	e)
Saturation (A3)		🗌 A0	quatic Invertebrate	s (B13)		Drift Deposits (B3) ((Riverine)	
Water Marks (B1) (Nonrive	erine)	H 🗌	, drogen Sulfide Od	lor (C1)	Drainage Patterns (B	310)		
Sediment Deposits (B2) (No	onriverine)		kidized Rhizospher	es along Livin	Dry-Season Water T	able (C2)		
Drift Deposits (B3) (Nonriverine)		🗌 Pr	esence of Reduced	Iron (C4)	Crayfish Burrows (C8)			
Surface Soil Cracks (B6)		🗌 Re	ecent Iron Reduction	on in Tilled Soi	ils (C6)	Saturation Visible-A	erial Imagery	(C9)
Inundation Visible on Aeria	l Imagery (B7	7) 🗍 Tł	in Muck Surface (C7)		Shallow Aquitard (D)3)	
Water-Stained Leaves (B9)		0	ther (Explain in Re	emarks)		FAC-Neutral test (D	5)	
Field Observations:								
Surface Water Present?	Yes 🗌	No 🛛	Depth (inches):					
Water Table Present?	Yes 🗌	No 🛛	Depth (inches):					
Saturation Present?	Yes	No 🖂	Depth (inches):		Wetland Hyd	rology Present?	Yes	No 🖂
(includes capillary fringe)			• • • •		· ·			
Describe Recorded Data (stream	gauge, monit	oring we	l, aerial photos, pr	evious inspecti	ons, if availabl	le:		
× ×	0 0 /	U		1	,			
Remarks:								

US Army Corps of Engineers

(September	Routine V 2008 V2.0 COI	Wetland Det Arid West W		eation Manual)		
Project/Site: Mace Ranch Innovation Center			Yolo County	·	: 10 Dec	2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates						
		a		· P a P	· · · ·	
				, convex, none): Linear concave		0
Subregion (LRR): C					Datum:	
Soil Map Unit Name: Sycamore complex, drained		i		NWI classification: Non		
Are climatic/hydrologic conditions on the site typical	for this time of	of the year?	Yes 🕅 N			
Are Vegetation Soil , Or Hydrology Sig		-		'Normal Circumstances" prese		No 🗌
Are Vegetation Soil , Or Hydrology Na			(If ne	eeded, explain any answers in 1	emarks.)	
			• . • .•			
SUMMARY OF FINDINGS – Attach site ma			oint location	ns, transects, important featu	ires, etc.	
Hydrophytic Vegetation Present? Yes						
Hydric Soil Present? Yes			the Sample			
Wetland Hydrology Present? Yes Remarks:	L No		within a We	tland? Yes No		
Kemarks.						
VEGETATION						
	Absolute	Dominant	Indicator			
Tree Stratum: ((Plot size:)	% Cover		Status	Dominance Test worksheet:		
1				Number of Dominant Species		
2				That Are OBL, FACW or FAC:	1	(A)
3				Total Number of Dominant Species Across All Strata:	2	(D)
4				Percent of Dominant Species	Z	(B)
Total Cover:		-		That Are OBL, FACW, or FAC	50%	(A/B)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index worksheet: Total % Cover of:	Multiply b	ov:
1.					1 2	<u></u>
2.				OBL Species:	x 1 =	
3				FACWG '	2	
4				FACW Species	x 2 =	
				FAC Species	x 3 =	
Total Cover:						
		-		FACU Species	x 4 =	
Herb Stratum: (Plot size: 10' radius)						
1 77.52	4		LIDI	UPL Species	x 5 =	
1. Triticum aestivum 2. Festuca perennis	$\frac{4}{10}$	D	UPL FAC	Column Totals:	(A)	(B)
3. <i>Brassica</i> sp.	$\frac{10}{10}$	D	UPL		_ (/1)	(D)
4. Silybum marianum	2		UPL	Prevalence Index = $B/A =$		
5. Centaurea solstitialis	2		UPL	Hydrophytic Vegetation Indicate		
6. <i>Epilobium ciliatum</i>	1		FACW	Dominance Test is >50%		
7				Prevalence Index is $\leq 3.0^{\circ}$ Morphological Adaptation		unn ortin a
8				data in Remarks or on a sepa	arate sheet)	upporting
Total Cover:	29	-		Problematic Hydrophytic		(Explain)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hydric soil and we must be present.	etland hydrol	ogy
1				-		
2.				Hydrophytic		
Total Cover:				Vegetation	. -	
% Bare Ground in Herb Stratum 70 9 Remarks:	% Cover of Bi	otic Crust 0)	Present? Yes	No	X
itematika.						

	scription: (Describe t	he depth need	ed to document the			bsence of	Indicators.)		
Depth Inches	Matrix Color (moist)	%	Color (moist)	Redox Featur %	es Type ¹	Loc ²	Texture	Remarks	
menes	Color (moist)	70		70	Type	Loc	Texture	Kelliarks	
0-3	2.5 Y 3/3	100					silty loam		
3-16	2.5 Y 3/3	100					sand		
		. <u></u>							
		·				·			
<u> </u>									
	Concentration, D=Dep					ns ² L	ocation: PL=Pore Lining, M=Matrix		
	oil Indicators: (App tosol (A1)	plicable to all		herwise note Redox (S5)	d.)		Indicators for Problematic		
	tic Epipedon (A2)			d Matrix (S6)			1 cm Muck (A9) (LRR 2 cm Muck (A10) (LRI		
	ck Histic (A3)			Mucky Mine			Reduced Vertic (F18)	X D)	
	drogen Sulfide (A4)			Gleyed Matri			Red Parent Material (TH	F2)	
	atified Layers (A5) (LRR C)		d Matrix (F3			Other (Explain in Rema	rks)	
	m Muck (A9) (LRR	,		Dark Surface					
	oleted Below Dark S			d Dark Surfa					
	ck Dark Surface (A1			Depressions (F8)		3		
	dy Mucky Mineral (Pools (F9)			³ Indicators of hydrophytic veg wetland hydrology must be pro-		
San	dy Gleyed Matrix (S	5 4)					disturbed or problematic.	esent, unless	
Restrictiv	ve Layer (if present	:):							
Type:									
Depth (in	nches):		_					_	_
							Hydric Soil Present? Ye	es 🗌 No	\boxtimes
Remarks:									
HYDRO	DLOGY								
	Hydrology Indicate								
	ndicators (minimum	of one requi					Secondary Indicators (2)
	ace water (A1) water Table (A2)			ıst (B11) Crust (B12)			Water Marks (B1) (I Sediment Deposits (
	ration (A3)			Invertebrates	(B13)		Drift Deposits (B3)		
	er Marks (B1) (Non r	viverine)		en Sulfide Od			Drainage Patterns (B		
	ment Deposits (B2)			d Rhizospher		ing Roots			
	Deposits (B3) (Non			e of Reduced		U	Crayfish Burrows (C		
	ace Soil Cracks (B6)			Iron Reductio		oils (C6)))
	dation Visible on Ae			uck Surface (Shallow Aquitard (D		
	er-Stained Leaves (B	9)	U Other (Explain in Re	marks)	-	FAC-Neutral test (D	5)	
	servations:	v 🗆		d (* 1)					
	Vater Present?	Yes 🗌		th (inches):					
	ble Present?	Yes		th (inches):		Watle	nd Hudnology Procent?		
	n Present? capillary fringe)	Yes	No 🛛 Dep	ui (inches):		wetta	nd Hydrology Present?	Yes 🛄 No	0 🖂
	Recorded Data (strea	am galloe me	nitoring well seri	ial photos pre	evious inspec	ctions if	available:		
	Suco Dum (Suco	and Bunge, inc	men, ach	Pilotos, pi	. ious mopor				

Remarks:

(September	Routine ' 2008 V2.0 COI	Wetland Det		eation Manual)			
Project/Site: Mace Ranch Innovation Center			Yolo County	,	Sampling Date:	10 Dec	2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates			<u>1010 County</u>				13
				ip, Range: See Re	~ ~		
Landform (hillslope, terrace, etc.): Terrace				convex, none): no		Slope (%):	0
Subregion (LRR): C	Lat: S		. ,	· · · · —			
Soil Map Unit Name: Willows clay, alkali, drained					sification: None		
Are climatic/hydrologic conditions on the site typical	for this time of	of the year?	Yes 🛛 No				
Are Vegetation \boxtimes Soil \boxtimes , Or Hydrology \square Sig				Normal Circums			No 🗌
Are Vegetation Soil , Or Hydrology Nat				eded, explain any			_
			· · ·				
SUMMARY OF FINDINGS – Attach site maj			oint location	ns, transects, im	portant featu	res, etc.	
Hydrophytic Vegetation Present? Yes			. ~ .				
Hydric Soil Present? Yes			s the Sample				
Wetland Hydrology Present? Yes Remarks:	L No		within a We	tland? Yes	□ No	\boxtimes	
Remarks:							
VECETATION							
VEGETATION	Absolute	Dominant	Indicator				
Tree Stratum: ((Plot size:)	% Cover		Status	Dominance Test	worksheet:		
1				Number of Domin			
2.				That Are OBL, F.		0	(A)
3				Total Number of			
4		. <u> </u>		Species Across A		1	(B)
Total Cover:				Percent of Domin That Are OBL, F.		0%	(A/B)
		-		That The ODE, Th	new, or rite.	070	_ (17.D)
Sapling/Shrub Stratum: (Plot size:)				Prevalence Index			
				Total % Cover of		Multiply l	oy:
1		. <u> </u>	·	OBL Species:		- 1	
2				OBL species.		x 1 =	
3				FACW Species		x 2 =	
5.				1			
				FAC Species		x 3 =	
Total Cover:		_					
				FACU Species		x 4 =	
Herb Stratum: (Plot size: 10' radius)				UPL Species		v 5 –	
1. Triticum aestivum	2	D	UPL	OIL Species		x J =	
2.				Column Totals:		(A)	(B)
3.							
4.					ndex = B/A =		
5				Hydrophytic Veg		rs:	
6				Dominanc	e Test is $>50\%$ e Index is $\le 3.0^1$		
7 8			·		gical Adaptation	s ¹ (Provide s	supporting
				data in Rem	arks or on a separ	ate sheet)	supporting
Total Cover:	2	_		Problemat	ic Hydrophytic	Vegetation ¹	(Explain)
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hyd		land hydro	logy
1				must be present.			
1. 2.				Hudrophytic			
2 Total Cover:				Hydrophytic Vegetation			
% Bare Ground in Herb Stratum 98 %	6 Cover of Bi			Present?	Yes 🗌		\boxtimes
Remarks: Vegetation based on seedlings sprouting in	n recently tille	d agricultur	al field. Near	by areas in similar	topographic pos	sition, outsi	de
cultivation, dominated by upland ruderal plants.							

Profile Des Depth	scription: (Describe the Matrix	ne depth need	ed to document the	Indicator or o Redox Featur		bsence of I	ndicators.)	
Inches	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	<u>, </u>							
0-16	2.5 Y 3/2	100					clay	
			<u>.</u>					
							·	
	Concentration, D=Dep	letion RM-P	duced Matrix CS-C	overed or Coa	ted Sand Grai	ns ² I	ocation: PL=Pore Lining, M=Matrix	x
	oil Indicators: (App					113 LA	Indicators for Problematic	
📋 Hist	tosol (A1)		🗌 Sandy F	Redox (S5)			1 cm Muck (A9) (LRR	C)
	tic Epipedon (A2)		=	d Matrix (S6)			$\square 2 \text{ cm Muck (A10) (LRI)}$	X B)
	ck Histic (A3) lrogen Sulfide (A4)			Mucky Mine Gleyed Matri			Reduced Vertic (F18) Red Parent Material (TI	F7)
	tified Layers (A5) (1	LRR C)		d Matrix (F3)			Other (Explain in Rema	
	n Muck (A9) (LRR			Dark Surface				
Dep Dep	leted Below Dark S	urface (A11)		d Dark Surfa				
	ck Dark Surface (A1			Depressions (F8)		3	
	dy Mucky Mineral (dy Gleyed Matrix (S		U Vernal	Pools (F9)			³ Indicators of hydrophytic veg wetland hydrology must be pro-	
	dy Gleyed Matrix (S	4)					disturbed or problematic.	esent, uness
	ve Layer (if present):						
Type:	1		_					
Depth (ir	nches):		-				Hydric Soil Present? Ye	es 🗌 No 🖂
Remarks:							Hyune Son Hesent, He	
	tilled agricultural fie	ld. High clay	content, low perr	neability soil				
_	-		-	-				
HYDRO	N OCV							
	Hydrology Indicate			1 \				
	ndicators (minimum ace water (A1)	of one requir	ed; check all that				Secondary Indicators (2	
	water Table (A2)			Crust (B12)			Sediment Deposits (
	ration (A3)			Invertebrates	s (B13)		Drift Deposits (B3)	
U Wate	r Marks (B1) (Nonr		Hydroge	en Sulfide Od	lor (C1)		Drainage Patterns (E	
	nent Deposits (B2) (d Rhizospher		ing Roots		
	Deposits (B3) (Non			e of Reduced fron Reductio	· · ·	cite (C6)	Crayfish Burrows (C	
	ce Soil Cracks (B6) dation Visible on Ae			ick Surface (5011S (C6)	Saturation Visible-A	
	r-Stained Leaves (B	•••	· · =	Explain in Re			FAC-Neutral test (D	
	servations:				,			
	/ater Present?	Yes 🗌		th (inches):				
	ole Present?	Yes		th (inches):		***		T
Saturation		Yes	No 🛛 Dep	th (inches):		wetlan	d Hydrology Present?	Yes 🗌 No 🖂
	capillary fringe) Recorded Data (strea	m galloe mo	nitoring well aeri	al photos pre	evious inspe	ctions if a	vailable:	
		Bunge, inc		r-10100, pr	- is as more			

Remarks:

Small amount of standing water from recent rain present in row depressions tilled into field for future irrigation purposes.

(Contombor	Routine V 2008 V2.0 COE	Vetland Det		ation Manual)			
Project/Site: Mace Ranch Innovation Center				,	Sampling Date:	10 Dec	2014
Applicant/Owner: Yolo 101 JV, c/o The Buzz Oates			1010 County		Sampling Date:		
	s cloup of col			p, Range: See Re			17
Landform (hillslope, terrace, etc.): Terrace							0
Subregion (LRR): <u>C</u>				Long:			
Soil Map Unit Name: Sycamore complex, drained	Eut. <u>50</u>				sification: None		
Are climatic/hydrologic conditions on the site typical	for this time o	f the year?	Yes 🕅 No				
Are Vegetation \boxtimes Soil \boxtimes , Or Hydrology \square Sig				Normal Circums			No □
Are Vegetation Soil , Or Hydrology Na				eded, explain an	-		
	• •			-	-		
SUMMARY OF FINDINGS – Attach site ma			oint location	s, transects, im	portant featu	res, etc.	
Hydrophytic Vegetation Present? Yes							
Hydric Soil Present? Yes			s the Sampleo				
Wetland Hydrology Present? Yes	No No		within a Wet	land? Yes	□ No	\boxtimes	
Remarks:							
VEGETATION	Abaohato	Dominon	t Indicator				
Tree Stratum: ((Plot size:)	% Cover		Status	Dominance Tes	t worksheet:		
1				Number of Dom	inant Species		
2.				That Are OBL, F		0	(A)
3				Total Number of			
4				Species Across A		1	(B)
				Percent of Domin That Are OBL, F			
Total Cover:				FAC:	ACW, 01	0%	(A/B)
		_					
Sapling/Shrub Stratum: (Plot size:)				Prevalence Inde			
				Total % Cover of	f:	Multiply	by:
1			. <u> </u>	ODI Species		1	
2				OBL Species:		x 1 =	
3				FACW Species		x 2 =	
5.				-			
				FAC Species		x 3 =	
Total Cover:		_					
				FACU Species		x 4 =	
Herb Stratum: (Plot size: 10' radius)				UPL Species			
1. Triticum aestivum	20	D	UPL	OFL Species		<u>x y =</u>	
2. Unknown annual grass seedlings	$\frac{20}{20}$	D		Column Totals:		(A)	(B)
3. Trifolium sp. (possibly Medicago sp.)	5		FAC				
4. Malvella leprosa	1		FACU		index = B/A =		
5. Sonchus sp. likely oleraceus			UPL	Hydrophytic Veg		rs:	
<i>Brassica</i> sp.<i>Lactuca</i> serriola	$\frac{2}{1}$		UPL		ce Test is $>50\%$ the Index is $\le 3.0^1$		
 Lactuca serriola Convolvulus arvensis 	<u> </u>		FACU UPL		e index is ≤ 5.0 ogical Adaptation	ns ¹ (Provide	supporting
	1				narks or on a sepa		supporting
Total Cover:	51				tic Hydrophytic		¹ (Explain)
		-				U	
Woody Vine Stratum: (Plot size:)				¹ Indicators of Hy		tland hydro	ology
1				must be present.			
1. 2.				Hada 1 d			
Z Total Cover:				Hydrophytic Vegetation			
	% Cover of Bi	otic Crust		Present?	Yes	No	\boxtimes
Remarks: Vegetation based on seedlings sprouting i			al field. Neart				

cultivation, dominated by upland ruderal plants.

	scription: (Describe th	ne depth need	led to document the			bsence of Ir	ndicators.)	
Depth Inches	Matrix Color (moist)	%	Color (moist)	Redox Featu %	Type ¹	Loc ²	Texture	Remarks
Interior		,,,						Termini
0-16	10 YR 3/2	100					Clay loam	
	·							
				·				
	. <u> </u>							
				. <u> </u>				
				·				
	Concentration, D=Depl					ins ² Lo	cation: PL=Pore Lining, M=	
	oil Indicators: (App	licable to a			ed.)		Indicators for Problem	
	tosol (A1)			Redox (S5) 1 Matrix (S6	`		$\square 1 \text{ cm Muck (A9) (I)}$	
	tic Epipedon (A2) ck Histic (A3)						2 cm Muck (A10) Reduced Vertic (F	
				Mucky Mine	$rar(\Gamma 1)$		Red Parent Materi	
	lrogen Sulfide (A4) ttified Layers (A5) (I			Gleyed Matu d Matrix (F3			Other (Explain in 1	
	n Muck (A9) (LRR]			Dark Surface				Kemarks)
	bleted Below Dark Su			d Dark Surface				
	ck Dark Surface (A12			Depressions				
	dy Mucky Mineral (S			Pools (F9)	(18)		³ Indicators of hydrophyt	is vegetation and
	dy Gleyed Matrix (S			1 0018 (1-9)			wetland hydrology must	he present, unless
	dy Oleyed Mainx (5	+)					disturbed or problematic	2.
	ve Layer (if present)):						
Type:								
Depth (ii	nches):							
D 1							Hydric Soil Present?	Yes No
Remarks:								
Tilled agr	icultural field; soil m	nxea.						
HYDRO	DLOGY							
	Hydrology Indicato		, , , , , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1)				(2)
	ndicators (minimum	of one requi						ors (2or more required)
	ace water $(A1)$		Salt Cru	· /			Water Marks (I	
	water Table (A2)			rust (B12) Invertebrate	c (B13)		Sediment Depo	osits (B2) (Riverine)

i initiary indicators (initiation of one	required, check a	in unai appry)			Secondary mulcators (201 more requi	ICu)
Surface water (A1)		alt Crust (B11)			Water Marks (B1) (Riverine)	
High water Table (A2)	🗌 B	iotic Crust (B12)			Sediment Deposits	(B2) (Riverine	e)
Saturation (A3)	🗌 A	quatic Invertebrates (B13)		Drift Deposits (B3)	(Riverine)	
Water Marks (B1) (Nonriverine	;) 🗌 H	lydrogen Sulfide Odo	r (C1)		Drainage Patterns (1	B10)	
Sediment Deposits (B2) (Nonriv	verine) 🗌 O	xidized Rhizospheres	along Living R	loots (C3)	Dry-Season Water	Гable (C2)	
Drift Deposits (B3) (Nonriverin	(e) P	resence of Reduced In	ron (C4)		Crayfish Burrows (C8)	
Surface Soil Cracks (B6)	🗌 R	ecent Iron Reduction	in Tilled Soils ((C6)	Saturation Visible-A	Aerial Imagery	(C9)
Inundation Visible on Aerial Ima	agery (B7) 🔲 T	hin Muck Surface (C	7)		Shallow Aquitard (I	D3)	
Water-Stained Leaves (B9)		Other (Explain in Rem	arks)		FAC-Neutral test (E)))	
Field Observations:							
Surface Water Present? Ye	s 🗌 🛛 No 🖾	Depth (inches):					
Water Table Present? Ye	s 🗌 🛛 No 🖾	Depth (inches):					
Saturation Present? Ye	s 🗌 🛛 No 🖾	Depth (inches):	Wo	etland Hydi	ology Present?	Yes 🗌	No
(includes capillary fringe)		_					
Describe Recorded Data (stream gaug	ge, monitoring we	ell, aerial photos, prev	ious inspections	s, if available	2:		
Remarks:							

US Army Corps of Engineers

 \boxtimes

Appendix B.

Photographs

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Photo 1. View south from near the center of the PSA. The PSA is dominated by tilled uplands. Arrow indicates approximate location of Data Point 8. 10 December 2014.



Photo 3. View north along the Davis Park and Ride driveway, in the southern portion of the PSA. Ruderal weeds occur on either side of the driveway. 7 October 2014.



Photo 5. View east along the north side of Road 32A in southern portion of the PSA. 10 December 2014.

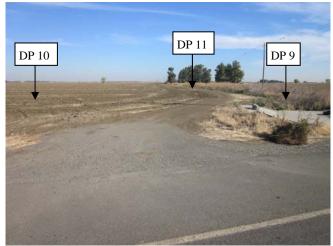


Photo 2. View north from Road 32A at southeast corner of the PSA. Approximate locations of Data Points 10, 11, and 9 at arrows, from left to right, respectively. 7 October 2014.



Photo 4. View north along Road 104 along alternative sewer line extension in north part of PSA. Agricultural fields occur along both sides of the road. 7 October 2014.



Photo 6. View south along Mace Blvd. in western portion of the PSA. 10 December 2014.



Photo 7. View west toward Mace Drainage Channel in western portion of the PSA. One of two culverts that pass water beneath Mace Blvd visible in distance. 7 October 2014.



Photo 9. View southwest toward the detention basin. Mace Drainage Channel in foreground. Vegetation recently removed from Mace Channel has been deposited in detention basin in background. 7 October 2014.



Photo 11. View west from near the center of the detention basin. The arrow shows the location of Data Point 3. 10 December 2014.



Photo 8. View east (looking downstream) from the bed of Mace Drainage Channel in the central portion of the PSA. 10 December 2014.

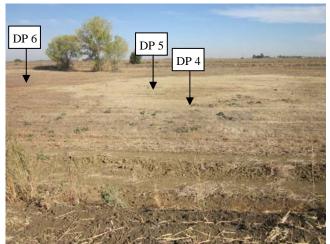


Photo 10. View north toward the detention basin. Three Fremont's cottonwoods occur in the basin in the distance. Arrows show approximate locations of Data Points 6, 5, and 4, from left to right, respectively. 7 October 2014.



Photo 12. View north along untilled eastern edge of the PSA. The arrow shows the location of Data Point 11. 10 December 2014.



Photo 13. View west toward Data Point 13 in the northeastern portion of the PSA. 10 December 2014.



Photo 14. View east from near the northwest corner of the PSA. Grain row crops on left. 7 October 2014.



Photo 15. View east from the eastern edge of the MRIC site toward the Mace Drainage Channel (looking downstream) along the sewer line alternative. An open bottom arch crossing visible in distance. 7 October 2014.



Photo 16. View east toward the Mace Drainage Channel from the eastern arch crossing, in the eastern portion of the PSA along the sewer line alternative. Ruderal weeds dominate the bed and banks of the channel. 10 December 2014.

Appendix C.

Plant Species Recorded at Data Points

Family ¹	Scientific Name	Common Name	Stratum	Indicator ²
DICOTS			•	·
Apiaceae	Conium maculatum	Poison hemlock	Herb	FACW
Asparagaceae	Asparagus officinalis ssp. officinalis	Asparagus	Herb	FACU
Asteraceae	Carduus pycnocephalus ssp. pycnocephalus	Italian thistle	Herb	UPL
	Centaurea solstitialis	Yellow star-thistle	Herb	UPL
	Lactuca serriola	Prickly lettuce	Herb	FACU
	Leontodon saxatilis	Hairy hawkbit	Herb	FACU
	Senecio vulgaris	Common groundsel	Herb	FACU
	Silybum marianum	Milk thistle	Herb	UPL
	Sonchus sp. (likely oleraceus)	Sow thistle	Herb	UPL
Brassicaceae	Brassica sp.	Mustard	Herb	Assumed UPL
	Lepidium latifolium	Perennial pepperweed	Herb	FAC
Convolvulaceae	Convolvulus arvensis	Field bindweed	Herb	UPL
Fabaceae	<i>Trifolium</i> sp. (possibly <i>Medicago</i> sp.)	Clover	Herb	Assumed FAC
Geraniaceae	Erodium cicutarium	Redstem filaree	Herb	UPL
	Geranium molle	Cranesbill, geranium	Herb	UPL
	Geranium dissectum	Cranesbill, geranium	Herb	UPL
	Malvella leprosa	Alkali-mallow	Herb	FACU
Onagraceae	Epilobium ciliatum	Willowherb	Herb	FACW
Polygonaceae	Rumex crispus	Curly dock	Herb	FAC
Rubiaceae	Galium aparine	Goose grass	Herb	FACU
MONOCOTS		-		•
Poaceae	Bromus hordeaceus	Soft chess	Herb	FACU
	Distichlis spicata	Salt grass	Herb	FAC
	Festuca perennis	Rye grass	Herb	FAC
	Hordeum murinum ssp. leporinum	Hare barley	Herb	FACU
	Triticum aestivum	Herb	UPL	

¹ Taxonomy and nomenclature follow Baldwin, et al. (2012).
 ² Indicator status from Lichvar, et al. (2014).

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