DRAFT

Aquatic Resources Delineation Report

Mill Creek Off-Site

Placer County, California
March 2018

MADRONE
ECOLOGICAL
CONSULTING

Prepared for:
Meritage Homes
1671 E. Monte Vista Avenue, Ste 214
Vacaville, CA 95688

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2018. *DRAFT Aquatic Resources Delineation Report for Mill Creek Off-Site*. Prepared for Meritage Homes. Published on 5 March 2018.

CONTENTS

DRAFT
Aquatic Resources Delineation Report
Mill Creek Off-Site

1.0 Introduction 1
1.1 Contact Information 1
2.0 Methodology 1
3.0 Existing Conditions 2
3.1 Terrestrial Vegetation Communities 2
3.1.1 Annaul Brome Grassland 2
3.1.2 Oak Woodland 2
3.1.3 Riparian Woodland 2
3.1.4 Abandoned Almond Orchard 3
3.1.5 Disturbed 3
3.2 Hydrology 3
3.3 Soils 3
3.4 Driving Directions 4
4.0 Results 4
4.1 Wetlands 4
4.1.1 Seasonal Wetland 4
4.2 Other Waters 5
4.2.1 Intermittent Drainage 5
4.2.2 Roadside Ditch 5
4.2.3 Dry Creek 5
5.0 Conclusion 5
6.0 References 6

Tables

Table 1. Aquatic Resources Mapped within the Study Area 4

Figures

Figure 1. Vicinity Map
Figure 2. Natural Resources Conservation Service Soils
Figure 3. Aquatic Resources Delineation – Western Area
Figure 4. Aquatic Resources Delineation – Eastern Area

Attachments

Attachment A. Arid West Wetland Determination Data Forms
Attachment B. Aquatic Resources Delineation Maps
Attachment C. Plant Species Observed within the Study Area
Attachment D. GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (on CD)
Attachment E. Danbury Park Wetland Delineation Map (SPK-2016-00265)
Attachment F. Access Letter

1.0 INTRODUCTION

This report presents the results of a delineation of aquatic resources within the Mill Creek Off-Site areas (Study Area) conducted by Madrone Ecological Consulting, LLC (Madrone).

The approximately 16-acre Study Area is located generally along Antelope Road, PFE Road, and Atkinson Street, and north of PFE road and south of Booth Road in southwestern Placer County. The Study Area is located in portions of Sections 9, 10, and 16, Township 10 North, Range 6 East (MDB&M) of the "Citrus Heights, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2013) (**Figure 1**).

1.1 Contact Information

Property Owner

Rob Wilson
Meritage Homes
1671 E. Monte Vista Avenue, Ste 214
Vacaville, CA 95688

Agent

Sarah VonderOhe
Madrone Ecological Consulting, LLC
8421 Auburn Blvd., Suite #248
Citrus Heights, CA 95610

2.0 METHODOLOGY

Madrone senior biologist Daria Snider conducted a delineation of aquatic resources within the Study Area on 18 May, 18 July, 26 September, and 18 October 2017. Water features and data points were mapped in the field with a GPS unit capable of sub-meter accuracy (Trimble GeoXT and Arrow 100). Three-parameter data (vegetation, soils, and hydrology) were collected at each data point, documenting wetland/waters or upland status, as appropriate. The delineation map was prepared in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a). The GPS data was overlayed onto ortho-rectified aerial photographs (NAIP 2016 and 2017).

The delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328) were used to determine the presence of Waters of the United States other than wetlands. The most recent *National Wetland Plant List* (Lichvar et al. 2016) was used to determine the wetland indicator status of plants observed in the Study Area. The *Jepson eFlora* (Jepson Flora Project 2017) was used for plant nomenclature, except where it conflicted with the nomenclature in the *National Wetland Plant List*, which was given priority on the data sheets.

3.0 EXISTING CONDITIONS

The Study Area is largely comprised of paved roadways and adjacent vegetation. While the vegetation immediately adjacent to the roadways is largely ruderal, a matrix of other vegetation communities fringes those areas. The communities include annual brome grasslands, abandoned almond orchards, oak woodland, and riparian woodland. A number of roadside ditches occur along the roadways, as does a depressional seasonal wetland in a low-lying area. The portion of the Study Area that runs north from PFE Road runs through some areas that have experienced somewhat less disturbance; most significantly Dry Creek and its associated riparian woodland. Elevations within the Study Area range from approximately 110 to 145 feet above MSL.

Surrounding properties are as diverse as the Study Area, and are largely consistent with the vegetation communities and land uses within the Study Area.

3.1 Terrestrial Vegetation Communities

3.1.1 Annual Brome Grassland

The annual brome grassland within the Study Area is dominated by ripgut brome (*Bromus diandrus*), soft brome (*B. hordeaceus*), wild oat (*Avena fatua*), medusahead (*Elymus caput-medusae*), and Italian ryegrass (*Festuca perennis*). Other species occurring frequently in this vegetation community within the Study Area include English plantain (*Plantago lanceolata*), turkey mullein (*Croton setiger*), vinegar weed (*Trichostema lanceolatum*), curly dock (*Rumex crispus*), prickly lettuce (*Lactuca serriola*), Fitch's spikeweed (*Centromadia fitchii*), slender tarweed (*Holocarpha virgata*), vetch (*Vicia* sp.), yellow star-thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), Canadian horseweed (*Erigeron canadensis*), and stinkwort (*Dittrichia graveolens*). Seasonal wetlands and swales occur occasionally throughout this community. Isolated trees scattered throughout the annual brome grassland include blue gum (*Eucalyptus globulus*), interior live oak (*Quercus wislizeni*), and Valley oak (*Quercus lobata*).

3.1.2 Oak Woodland

The oak woodland has a primarily closed canopy that is comprised of Valley oak, blue oak (*Quercus douglasii*), and interior live oak. Occasional Chinese tallow tree (*Triadica sebifera*), olive (*Olea europaea*), and common fig (*Ficus carica*) also occur. The shrub layer is sparse in most areas, but where present includes poison-oak (*Toxicodendron diversilobum*) and Himalayan blackberry (*Rubus armeniacus*). The herbaceous understory is comprised of species typical of the annual brome grassland described above.

3.1.3 Riparian Woodland

The canopy of the riparian woodland is dense and quite diverse. Common trees include Goodding's black willow (*Salix gooddingii*), arroyo willow (*S. lasiolepis*), Fremont's cottonwood (*Populus fremontii*), Valley oak, box elder (*Acer negundo*), cigar tree (*Catalpa bignonioides*), tree of heaven (*Ailanthus altissima*), sycamore

(*Platanus racemosa*), white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), and black walnut (*Juglans hindsii*). The understory is dense in some locations and includes thickets of Himalayan blackberry, wild reed (*Arundo donax*), wild rose (*Rosa californica*), sandbar willow (*Salix exigua*) and California wild grape (*Vitis californica*). Herbaceous species within the understory include dallisgrass (*Paspalum dilatatum*), barnyard grass (*Echinochloa crus-galli*), rice cutgrass (*Leersia oryzoides*), tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), cocklebur (*Xanthium strumariu*m), soft rush (*Juncus effusus*), and Bermuda grass (*Cynodon dactylon*).

3.1.4 Abandoned Almond Orchard

The almond orchards within the Study Area have been abandoned since the late 1980s, and the understory is annually mowed or disked for fire suppression purposes. Because the orchard has been abandoned for a substantial amount of time, blue oak, Valley oak, and interior live oak saplings have become established amongst the remaining almond trees. The understory of the almond orchard is comprised of herbaceous weedy species typical of the annual brome grassland described above.

3.1.5 Disturbed

Heavily disturbed areas are prevalent throughout the Study Area, primarily along roadways. Most of these areas are paved or otherwise unvegetated, but some areas support ruderal vegetation including stinkwort, bindweed (*Convolvulus arvensis*), purple sand-spurrey (*Spergularia rubra*), yellow star-thistle, and turkey mullein.

3.2 Hydrology

Surface water in the Study Area appears to be primarily from natural stormwater runoff from roadways and groundwater. The western-most intermittent drainage and seasonal wetland (located south of PFE Road) also appear to receive some summer irrigation runoff flows from a nursery that is located to the south of these features, and that drains directly into the intermittent drainage and seasonal wetland via an off-site swale. Runoff from the southern portion of the Study Area drains into roadside ditches, which drain either to intermittent tributaries to Dry Creek, or to the municipal storm drain system, which is also assumed to drain to Dry Creek. The northern portion of the Study Area appears to all drain directly to Dry Creek. Dry Creek is a tributary of the Sacramento River. The Study Area is located in the *Gibson Lake-Dry Creek* Watershed (HUC 180201110105) (USGS 1978).

3.3 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2017), five soil mapping units occur within the Study Area (**Figure 2**): (141) Cometa-Fiddyment complex, 1 to 5% slopes; (147) Fiddyment-Kaseberg loams, 2 to 9% slopes; (193) Xerofluvents, occasionally flooded; (194) Xerofluvents, frequently flooded; and (229sa) Urban land-Xerarents-Fiddyment complex, 0 to 8% slopes.

Unit (194) consists of hydric components, and all units except for (229sa) may contain hydric inclusions (NRCS 2017).

3.4 Driving Directions

To access the Study Area from Sacramento, drive east on Interstate 80 to Exit 102. Take Exit 102, and head north on Riverside Avenue. Take your first left onto Cirby Avenue, and then take a right on Foothills Boulevard. Turn left on Vineyard Boulevard. Turn left on Cook Riolo Road, and then left on PFE Road. The western end of the Study Area is located at the intersection of PFE Road and Cook Riolo Road.

4.0 RESULTS

A total of 0.401 acre of aquatic resources were delineated within the Study Area (**Table 1**). Data sheets are included in **Attachment A**, maps of the aquatic resources are included as **Figures 3 and 4** and in **Attachment B**, and a list of the plant species observed in the Study Area with their wetland indicator status is included in **Attachment C**. GIS Shapefiles and the *Aquatic Resources Excel Spreadsheet* for the aquatic resources shown on **Figures 3 and 4** and in **Attachment B** are included on a CD in **Attachment D**. Each of the feature types is described below.

Table 1. Aquatic Resources Mapped within the Study Area

Resource Type	Acreage
Seasonal Wetland	0.101
Intermittent Drainage	0.007
Roadside Ditch	0.065
Dry Creek	0.228
Total	**0.401**

4.1 Wetlands

4.1.1 Seasonal Wetland

One depressional seasonal wetland occurs within the Study Area. This feature appears to be the result of water backing up behind a culvert in a low-lying area to the south of PFE Road. This feature is occupied by largely facultative plant species, such as curly dock, perennial ryegrass, and Mediterranean barley.

Indicators of wetland hydrology observed in the seasonal wetland during the field survey included surface soil cracks and algal matting. The soil matrix color at Data Point 3 was 10YR2/1 without redox features from the surface to a depth of one inch. The soil matrix color from 1 to 6 inches below the soil surface was 10YR 4/1 with 10% 7.5YR4/6 redox concentrations. The soil at this data point was considered to be hydric based on the presence of field indicator F3 (depleted matrix).

4.2 Other Waters

4.2.1 Intermittent Drainage

Two short segments of intermittent drainage were mapped within the Study Area. The western-most intermittent drainage is dry throughout most of the year, while the eastern one is only dry for a few months in most years, and appears to be perennial in the wettest years. The intermittent drainages are unvegetated within the channel due to the depth and scouring effects of water, but the eastern drainage supports a fringe of hydrophytes along the banks, including rice cutgrass (*Leersia oryzoides*), spotted lady's-thumb (*Persicaria punctata*), stick-tight (*Bidens frondosa*), tall nutsedge, and Himalayan blackberry. The OHWM of the intermittent drainages was identified in the field based on the extent of scour, sediment sorting, and changes in vegetation.

4.2.2 Roadside Ditch

Several roadside ditch (or drainage ditch) segments were mapped within the Study Area along PFE Road and Antelope Road. The roadside ditches appear to have been constructed in uplands concurrent with construction of the roads, and serve to convey stormwater runoff from the road into the storm drain system or tributaries to Dry Creek. These features are primarily unvegetated due to ditch maintenance, but some ruderal vegetation has become established in portions. Plant species observed in and adjacent to this feature include perennial ryegrass, wild radish (*Raphanus sativus*), tall nutsedge (*Cyperus eragrostis*), and Bermuda grass (*Cynodon dactylon*). The OHWM of the roadside ditches was identified in the field based on the extent of scour, sediment sorting, and changes in vegetation.

Roadside Ditch 9 was mapped as a "Non-Jurisdictional Feature" on the Danbury Park Wetland Delineation Map, which was prepared by the U.S. Army Corps of Engineers and verified under an Approved Jurisdictional Determination (SPK-2016-00265) on 4 October 2016 (included as **Attachment E**).

4.2.3 Dry Creek

Dry Creek runs through the eastern portion of the Study Area. Dry Creek is a broad, perennial creek with a gravel/cobble substrate. It is almost entirely unvegetated within the channel due to the scouring effects of high winter flows, but there are a few islands and sand bars where a few plants have managed to establish. This feature is incised, with steep, eroded banks on one bank, and deep sand deposits on the opposite bank. The banks support a dense, well-developed riparian woodland (described above). The OHWM of Dry Creek was identified in the field based on changes in slope, sediment sorting, and extent of adjacent vegetation.

5.0 CONCLUSION

The applicant is requesting a Preliminary Jurisdictional Determination for the Aquatic Resources Delineation maps included as **Attachment B**. A signed statement providing USACE staff accompanied access to the Study Area is included as **Attachment F**.

6.0 REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station. Vicksburg, Miss.

Jepson Flora Project (eds.) 2017. *Jepson eFlora*. Available on-line at: http://ucjeps.berkeley.edu/eflora/ [accessed May through November 2017]

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 Wetland Ratings*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

National Agricultural Imagery Program (NAIP). 2016. *Aerial Photograph of the Study Area*. Dated 10 July 2016.

National Agricultural Imagery Program (NAIP). 2017. *Aerial Photograph of the Study Area*. Dated 1 March 2017.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture (NRCS). 2017. *Web Soil Survey*. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed May through November 2017.

U.S. Army Corps of Engineers (USACE). 2016a. *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program*. Dated February 10, 2016. Available online at: http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/

U.S. Army Corps of Engineers (USACE). 2016b. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. U.S. Army Corps of Engineers, Sacramento District. Dated January 2016. Available online at: http://www.spk.usace.army.mil/Portals/12/documents/regulatory/jd/minimum-standards/Minimum_Standards_for_Delineation_with_Template-final.pdf

U.S. Army Corps of Engineers (USACE). 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers (USACE). 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. A Delineation Manual*. Prepared by R. W. Lichvar and S. M. McColley. ERDC/CRREL TR-08-12. Cold Regions Research and Engineering Laboratory.

U.S. Department of the Interior, Geological Survey (USGS). 1978. *Hydrologic Unit Map, State of California*. Geological Survey. Reston, Virginia.

U.S. Department of the Interior, Geological Survey (USGS). 2013. *Citrus Heights, California* 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

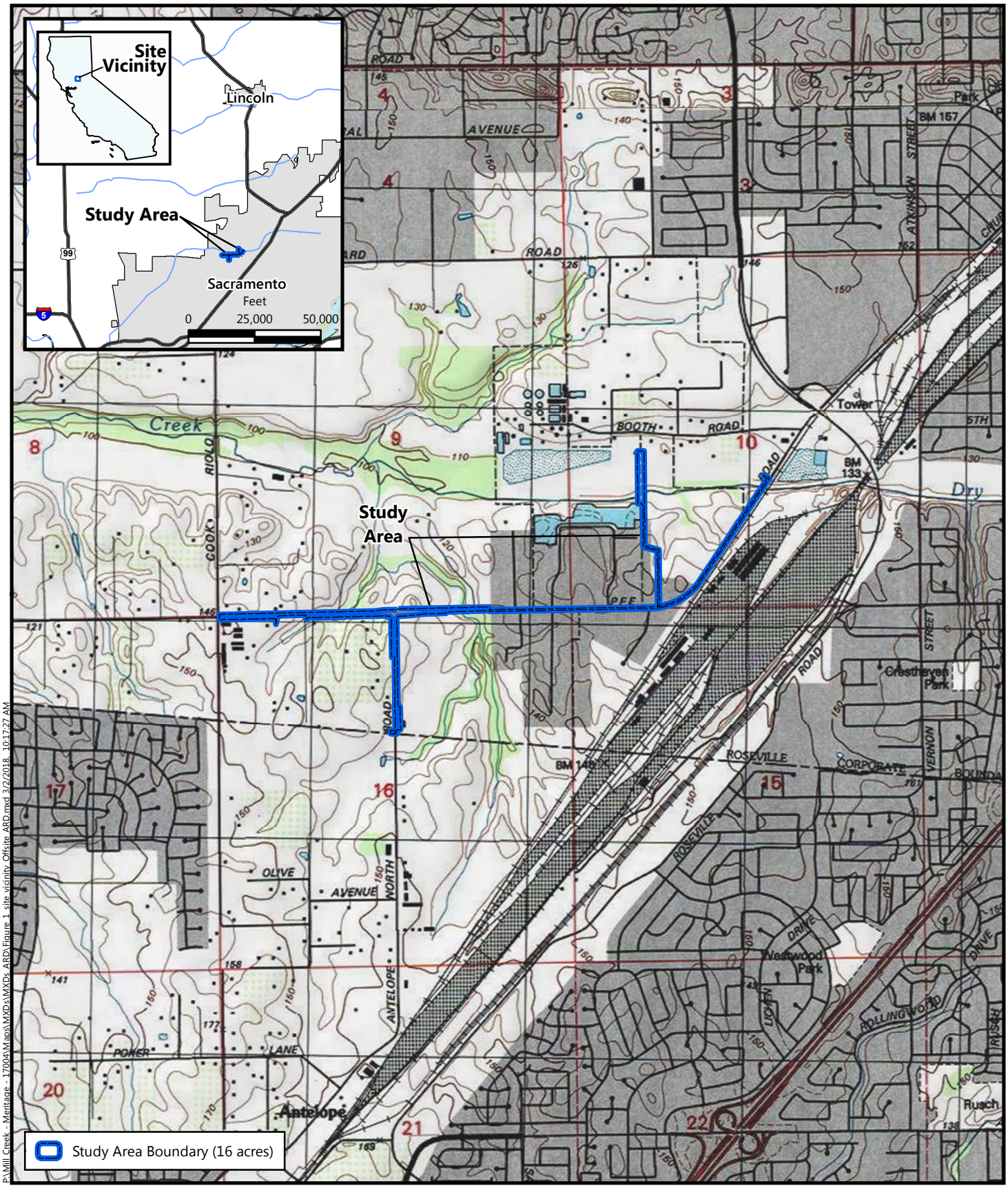
Figures

Figure 1. Vicinity Map

Figure 2. Natural Resources Conservation Service Soils

Figure 3. Aquatic Resources Western Area

Figure 4. Aquatic Resources Eastern Area



Source: United States Geologic Survey, 2013.
"Citrus Heights, California" 7.5-Minute Topographic Quadrangle
Longitude -121.322978, Latitude 38.729855
Sections 9, 10, and 16; Township 10 North, Range 6 East

Figure 1
Vicinity Map

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

P:\Mill Creek - Meritage - 17004\Maps\MXDs\MXDs_ARD\Figure 1_site vicinity_Offsite_ARD.mxd 3/2/2018, 10:17:27 AM

N

Feet
0 275 550

Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Placer County, California, Western Part
Aerial Source: *USDA, National Agriculture Imagery Program,* March 2015, 2017.

Figure 2
Natural Resources Conservation Service Soils

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

I:\Madrone\Mill Creek - Meritage - 17004\Maps\MXDs\MXDs_ARD\Figure 2-Soils_ARD.mxd 3/1/2018, 3:25:34 PM

N

Feet
0 150 300

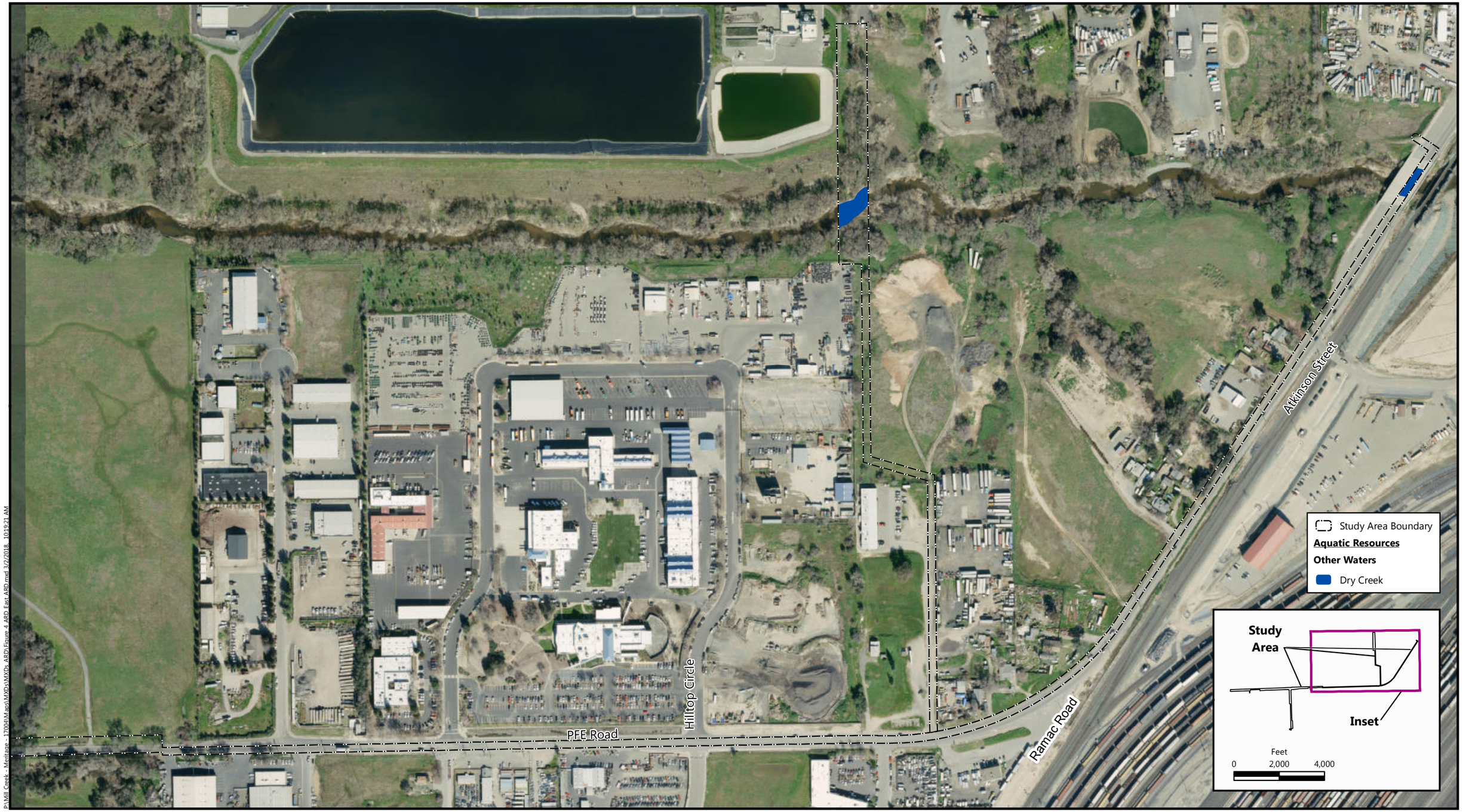
Figure 3
Aquatic Resources
Western Area

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

Aerial Source: *USDA, National Agriculture Imagery Program,* 10 July 2016.

P:\Mill Creek - Meritage - 17004\Maps\MXDs\MXDs_ARD\Figure 3_ARD_West_ARD.mxd 3/2/2018 10:24:08 AM



N

Feet
0 150 300

P:\Mill Creek - Meritage - 17004\Maps\MXDs\MXDs: ARD\Figure 4 ARD East ARD.mxd 3/2/2018, 10:19:21 AM

Aerial Source: *USDA, National Agriculture Imagery Program,* 1 March 2017.

Figure 4
Aquatic Resources Map
Eastern Area

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

Attachments

Attachment A. Arid West Wetland Determination Data Forms

Attachment B. Aquatic Resources Delineation Maps

Attachment C. Plant Species Observed within the Study Area

Attachment D. GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (on CD)

Attachment E. Danbury Park Wetland Delineation Map (SPK-2016-00265)

Attachment F. Access Letter

Attachment A

Arid West Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 05/18/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 1
Investigator(s): Daria Snider Section, Township, Range: S 9, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.729015 Long: -121.33104 Datum: NAD 83
Soil Map Unit Name: (147) Fiddyment-Kaseberg loams, 2 to 9% slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Suspect data point due to the prevalence of hydrophytic vegetation; however, wetland hydrology is lacking.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: ____)			
1. *Lolium perenne*	100	X	FAC
2. *Rumex cripus*	trace		FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		x1 = 0
FACW species		x2 = 0
FAC species	100	x3 = 300
FACU species		x4 = 0
UPL species		x5 = 0
Column Totals:	100 (A)	300 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2/1	100	none				sandy clay loa	
2-12	10YR3/2	75	10YR2/1	20	C	M	sandy clay loa	
			7.5YR3/4	5	C	M	sandy clay loa	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 05/18/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 2
Investigator(s): Daria Snider Section, Township, Range: S 9, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.729032 Long: -121.330577 Datum: NAD 83
Soil Map Unit Name: (147) Fiddyment-Kaseberg loams, 2 to 9% slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Data point is located in a roadside seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: ____)			
1. *Lythrum hyssopifolium*	15	X	OBL
2. *Rumex crispus*	15	X	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	30 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 20

Dominance Test worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:			Multiply by:
OBL species	**50**	x1 =	**50**
FACW species		x2 =	**0**
FAC species	**50**	x3 =	**150**
FACU species		x4 =	**0**
UPL species		x5 =	**0**
Column Totals:	**100** (A)		**200** (B)

Prevalence Index = B/A = **2.0**

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X** **No ____**

Remarks:

SOIL

Sampling Point: 2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR2/1	100	none				clay loam	
1-6	10YR4/1	90	7.5YR4/6	10	C	M	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

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

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 05/18/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 3
Investigator(s): Daria Snider Section, Township, Range: S 9, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.729045 Long: -121.33058 Datum: NAD 83
Soil Map Unit Name: (147) Fiddyment-Kaseberg loams, 2 to 9% slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland comparison to DP 2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Herb Stratum (Plot size: _____)			
1. *Torilis arvensis*	50	X	UPL
2. *Vicia sativa*	20	X	FACU
3. *Lolium perenne*	20	X	FAC
4. *Aegilops triuncialis*	10		UPL
5. *Geranium dissectum*	trace		UPL
6. *Avena fatua*	trace		UPL
7.			
8.			
	100 =Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	=Total Cover		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply by:
OBL species		x1 =	**0**
FACW species		x2 =	**0**
FAC species	**20**	x3 =	**60**
FACU species	**20**	x4 =	**80**
UPL species	**60**	x5 =	**300**
Column Totals:	**100** (A)		**440** (B)

Prevalence Index = B/A = **4.4**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR3/2	100	none				clay loam	refusal at 10".

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 05/18/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 4
Investigator(s): Daria Snider Section, Township, Range: S 16, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): constructed channel Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.72906084 Long: -121.3271171 Datum: NAD 83
Soil Map Unit Name: (141) Cometa-Fiddyment complex, 1-5% slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Data point is located in a roadside ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 =Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	x1 =	**0**
FACW species	x2 =	**0**
FAC species	x3 =	**0**
FACU species	x4 =	**0**
UPL species	x5 =	**0**
Column Totals: **0** (A)		**0** (B)

Prevalence Index = B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

Dominance Test is >50%
Prevalence Index is ≤3.0[1]
____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Channel is almost entirely unvegetated, with the exception of occasional *Bromus diandrus* .

SOIL

Sampling Point: 4

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks:

No soil pit, as this is an "other waters" point.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

An ordinary high water mark is present, and indicated by the edge of adjacent vegetation and the extent of occasional scour.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 05/18/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 5
Investigator(s): Daria Snider Section, Township, Range: S 16, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.72905048 Long: -121.3271165 Datum: NAD 83
Soil Map Unit Name: (141) Cometa-Fiddyment complex, 1-5% slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland comparison to DP 4.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Herb Stratum (Plot size: _____)			
1. *Bromus diandrus*	70	X	UPL
2. *Geranium dissectum*	10		UPL
3.			
4.			
5.			
6.			
7.			
8.			
	80 =Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		x1 = **0**
FACW species		x2 = **0**
FAC species		x3 = **0**
FACU species		x4 = **0**
UPL species	**80**	x5 = **400**
Column Totals:	**80** (A)	**400** (B)

Prevalence Index = B/A = **5.0**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR3/3	100	none				clay loam	refusal at 6".

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 09/26/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 6
Investigator(s): Daria Snider Section, Township, Range: S 10, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.734282 Long: -121.314288 Datum: NAD 83
Soil Map Unit Name: (194) Xerofluvents, frequently flooded NWI Classification: R2UBH
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Data point is located in Dry Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 =Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	x1 =	0
FACW species	x2 =	0
FAC species	x3 =	0
FACU species	x4 =	0
UPL species	x5 =	0
Column Totals: 0 (A)		0 (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Channel is unvegetated. Banks support a well-developed riparian woodland.

SOIL

Sampling Point: 6

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ___

Remarks:

No soil pit as channel substrate is gravel and small cobble, and the deep flowing water precludes effective soil sampling.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 12"

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

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

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

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

Remarks:

OHWM present, and indicated variously by change in substrate size, shelving, extent of adjacent riparian vegetation, water marks, and topographic breaks (tops of sandbars, etc).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mill Creek City/County: Placer County Sampling Date: 09/26/17
Applicant/Owner: Meritage Homes State: CA Sampling Point: 7
Investigator(s): Daria Snider Section, Township, Range: S 10, Township 10 North, Range 6 East
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.734353 Long: -121.314285 Datum: NAD 83
Soil Map Unit Name: (194) Xerofluvents, frequently flooded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland comparison to DP 6.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus lobata*	50	X	FACU
2.			
3.			
4.			
	50 =Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Herb Stratum (Plot size: ____)			
1. *Carex barbarae*	50	X	FAC
2. *Torilis arvensis*	5		UPL
3.			
4.			
5.			
6.			
7.			
8.			
	55 =Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:			Multiply by:
OBL species		x1 =	**0**
FACW species		x2 =	**0**
FAC species	**50**	x3 =	**150**
FACU species	**50**	x4 =	**200**
UPL species	**5**	x5 =	**25**
Column Totals:	**105** (A)		**375** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/2	100						Refusal at 6".

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

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

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

Remarks:

No wetland hydrology indicators detected.

Attachment B

Aquatic Resources Delineation Maps

AQUATIC RESOURCE FEATURES

WETLANDS

Seasonal Wetland

Feature ID	Acreage
SW 1	0.101
	0.101
Total:	**0.101**

OTHER WATERS

Intermittent Drainage

Feature ID	Acreage	Linear Feet
ID 1	0.001	12
ID 2	0.006	29
	0.007	**41**

Roadside Ditch

Feature ID	Acreage	Linear Feet
RD 1	0.002	36
RD 2	0.018	251
RD 3	0.003	92
RD 4	0.003	67
RD 5	0.001	64
RD 6	0.003	110
RD 7	0.011	470
RD 8	0.008	205
RD 9/OW-2	0.017	504
	0.065	**1,799**
Total:	**0.072**	**1,840**

Aquatic Resources Total: 0.173 acre

Project Name: Mill Creek
Map Title: Aquatic Resources Delineation, Western Area
Path: P:\Mill Creek - Meritage - 17006\Maps\MXD_AED\Attachment_AED_Mill\Creek_West_AED.mxd
Date Map Prepared: 2 March 2018

Notes:
Main Map Scale: 1 inch = 200 feet
Inset Scale: 1 inch = 50 feet
Coordinate System: California State Plane (CORS96), Zone II (FIPS 0402)
Datum: NAD83
Projection: Lambert Conformal Conic
Aerial Base: USDA, National Agriculture Imagery Program
Aerial Base Flown: 1 March 2017
Date Map Prepared: 2 March 2018
Map Prepared by: N. Bente, M. Hirkaka
Delineation Performed by: D. Snider
Definitions:
ac = acre
USDA = United States Department of Agriculture

N
0 100 200 400
Feet

Prepared For:

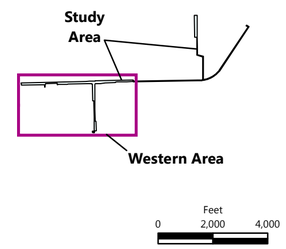
Meritage Homes of California
1671 E. Monte Vista Avenue
Suite 214
Vacaville, California 95688

Study Area Boundary
Reference Point (decimal degrees, NAD83)
Data Point
Culverts

Aquatic Resources

Wetlands
Seasonal Wetland

Other Waters
Intermittent Drainage
Roadside Ditch



Aquatic Resources Delineation
Mill Creek Off-Site
Western Area

Placer County, California

MADRONE ECOLOGICAL CONSULTING
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610
(916) 822.3220 | www.madroneeco.com

AQUATIC RESOURCE FEATURES

OTHER WATERS

Dry Creek

Feature ID	Acreage	Linear Feet
Creek 1	0.166	123
Creek 2	0.062	108
Total:	**0.228**	**231**
Aquatic Resources Total:		**0.228 acre**

Project Name: Mill Creek
Map Title: Aquatic Resources Delineation, Eastern Area
Path: P:\Mill Creek - Meritage - 17006\Maps\MXDs\MXDs_ARD\Attachment_ARD\MillCreek_East_ARD.mxd
Date Map Prepared: 2 March 2018

Notes:
Scale: 1 inch = 150 feet
Coordinate System: California State Plane (CORS96), Zone II (FIPS 0402)
Datum: NAD83
Projection: Lambert Conformal Conic
Aerial Base: USDA, National Agriculture Imagery Program
Aerial Base Flown: 1 March 2017
Date Map Prepared: 2 March 2018
Map Prepared by: N. Bente, M. Hirkaka
Delineation Performed by: D. Snider
Definitions:
ac = acre
USDA = United States Department of Agriculture

N
0 75 150 300
Feet

Prepared For:

Meritage Homes of California
1671 E. Monte Vista Avenue
Suite 214
Vacaville, California 95688

Study Area Boundary
Reference Point (decimal degrees, NAD83)
Data Point

Aquatic Resources

Other Waters
Dry Creek

Aquatic Resources Delineation
Mill Creek Off-Site
Eastern Area

Placer County, California

MADRONE ECOLOGICAL CONSULTING
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610
(916) 822.3220 | www.madroneeco.com

Attachment C

Plant Species Observed within the Study Area

Plant Species Observed within the Mill Creek Off-Site Study Area 18 May, 18 July, 26 September, and 18 October 2017

Species Name	Common Name	Wetland Indicator Status
Acer negundo	Box elder	FACW
Achillea millefolium	Yarrow	FACU
Aegilops triuncialis	Barbed goat grass	UPL
Ailanthus altissima	Tree of heaven	FACU
Aira caryophyllea	Silver hair grass	FACU
Alisma triviale	Northern water plantain	OBL
Alnus rhombifolia	White alder	FACW
Alopecurus saccatus	Pacific foxtail	OBL
Artemisia douglasiana	Mugwort	FAC
Arundo donax	Giant reed	FACW
Asclepias fascicularis	Narrow-leaf milkweed	FAC
Avena fatua	Wild oat	UPL
Bidens frondosa	Sticktight	FACW
Brassica nigra	Black mustard	UPL
Briza minor	Annual quaking grass	FAC
Brodiaea elegans subsp. elegans	Harvest brodiaea	FACU
Bromus diandrus	Ripgut grass	UPL
Bromus hordeaceus	Soft chess	FACU
Carduus pycnocephalus	Italian thistle	UPL
Carex barbarae	Santa barbara sedge	FAC
Castilleja attenuata	Valley tassels	UPL
Castilleja campestris subsp. campestris	Yellow owl's clover	FACW
Catalpa bignonioides	Cigar tree	UPL
Centaurea solstitialis	Yellow star-thistle	UPL
Centromadia fitchii	Fitch's spikeweed	FACU
Cerastium glomeratum	Sticky mouse-ear chickweed	UPL
Chenopodium album	Lamb's quarters	FACU
Chlorogalum pomeridianum	Wavyleaf soap plant	UPL
Chondrilla juncea	Skeleton weed	UPL
Cichorium intybus	Chicory	FACU
Cirsium vulgare	Bull thistle	FACU
Claytonia perfoliata subsp. perfoliata	Miner's lettuce	FAC
Convolvulus arvensis	Bindweed	UPL
Crassula aquatica	Water pygmy weed	OBL
Croton setiger	Turkey-mullein	UPL
Crypsis schoenoides	Swamp prickle grass	FACW
Cynodon dactylon	Bermuda grass	FACU
Cyperus eragrostis	Tall nutsedge	FACW
Deschampsia danthonioides	Annual hair grass	FACW

Dichelostemma capitatum	Blue dicks	FACU
Dittrichia graveolens	Stinkwort	UPL
Downingia bicornuta	Double-horned downingia	OBL
Downingia ornatissima var. ornatissima	Horned downingia	OBL
Echinochloa crus-galli	Barnyard grass	FACW
Eleocharis macrostachya	Creeping spikerush	OBL
Elymus caput-medusae	Medusa head	UPL
Epilobium brachycarpum	Panicled willow-herb	UPL
Epilobium torreyi	Torrey's willow-herb	FACW
Erigeron canadensis	Horseweed	FACU
Erodium botrys	Filaree	FACU
Erodium cicutarium	Redstem filaree	UPL
Eryngium castrense	Great valley coyote-thistle	OBL
Eucalyptus species	Eucalyptus	N/A
Euphorbia maculata	Spotted spurge	UPL
Festuca myuros	Rattail sixweeks grass	FACU
Festuca perennis	Rye grass	FAC
Ficus carica	Edible fig	FACU
Foeniculum vulgare	Fennel	UPL
Fraxinus latifolia	Oregon ash	FACW
Galium aparine	Goose grass	FACU
Galium parisiense	Wall bedstraw	UPL
Geranium dissectum	Cut leaf geranium	UPL
Glyceria declinata	Low manna grass	FACW
Gratiola ebracteata	Bractless hedge-hyssop	OBL
Helminthotheca echioides	Bristly ox-tongue	FAC
Heterotheca grandiflora	Telegraph weed	UPL
Hirschfeldia incana	Tumble mustard	UPL
Holocarpha virgata subsp. virgata	Slender tarweed	UPL
Hordeum marinum subsp. gussoneanum	Mediterranean barley	FAC
Hordeum murinum	Wall barley	FACU
Hypericum perforatum subsp. perforatum	Klamathweed	FACU
Hypochaeris glabra	Smooth cat's-ear	UPL
Iris germanica	Bearded iris	UPL
Isoetes species	Quillwort	OBL
Juglans hindsii	Northern California black walnut	FAC
Juncus balticus subsp. ater	Baltic rush	FACW
Juncus bufonius	Toad rush	FACW
Juncus capitatus	Dwarf rush	FACU
Juncus effusus subsp. effusus	Common rush	FACW
Juncus xiphioides	Iris-leaved rush	OBL
Lactuca serriola	Prickly lettuce	FACU
Lasthenia glaberrima	Smooth goldfields	OBL
Leersia oryzoides	Rice cutgrass	OBL
Lemna minor	Duckweed	OBL

Leontodon saxatilis subsp. saxatilis	Hairy hawkbit	FACU
Ligustrum ovalifolium	Privet	UPL
Limnanthes alba subsp. alba	Meadowfoam	FACW
Logfia gallica	Daggerleaf cottonrose	UPL
Lupinus bicolor	Miniature lupine	UPL
Lysimachia arvensis	Scarlet pimpernel	FAC
Lythrum hyssopifolia	Hyssop loosestrife	OBL
Malva neglecta	Common mallow	UPL
Marrubium vulgare	Horehound	FACU
Matricaria discoidea	Pineapple weed	FACU
Mimulus guttatus	Seep-spring monkeyflower	OBL
Navarretia intertexta	Needle leaf navarretia	FACW
Nerium oleander	Common oleander	UPL
Olea europaea	Cultivated olive	UPL
Paspalum dilatatum	Dallis grass	FAC
Persicaria maculosa	Lady's thumb	FACW
Persicaria punctata	Dotted smartweed	OBL
Phytolacca americana var. americana	Pokeweed	FAC
Plagiobothrys stipitatus var. micranthus	Slender popcorn flower	FACW
Plagiobothrys undulatus	Wavy-stemmed popcornflower	OBL
Plantago lanceolata	English plantain	FAC
Platanus racemosa	Western sycamore	FAC
Poa annua	Annual blue grass	FAC
Polygonum aviculare subsp. depressum	Prostrate knotweed	FAC
Polypogon monspeliensis	Annual rabbitfoot grass	FACW
Populus fremontii subsp. fremontii	Fremont cottonwood	FAC
Prunus cerasifera	Cherry plum	UPL
Prunus dulcis	Almond	UPL
Pseudognaphalium luteoalbum	Pearly everlasting	FAC
Quercus × morehus	Oracle oak	UPL
Quercus douglasii	Blue oak	UPL
Quercus lobata	Valley oak	FACU
Quercus wislizeni var. wislizeni	Interior live oak	UPL
Ranunculus bonariensis var. trisepalus	Carter’s buttercup	OBL
Raphanus sativus	Radish	UPL
Rosa californica	California rose	FAC
Rubus armeniacus	Himalayan blackberry	FAC
Rumex conglomeratus	Clustered dock	FACW
Rumex crispus	Curly dock	FAC
Salix exigua var. exigua	Sandbar willow	FACW
Salix gooddingii	Goodding's black willow	FACW
Salix lasiolepis	Arroyo willow	FACW
Silene gallica	Small-flower catchfly	UPL
Silybum marianum	Milk thistle	UPL
Solanum elaeagnifolium	White horse-nettle	UPL

Sonchus asper subsp. asper	Prickly sow thistle	FAC
Spergularia rubra	Red sand-spurrey	FAC
Torilis arvensis	Tall sock-destroyer	UPL
Toxicodendron diversilobum	Western poison oak	FACU
Tragopogon porrifolius	Salsify	UPL
Tribulus terrestris	Puncture vine	UPL
Trichostema lanceolatum	Vinegar weed	FACU
Trifolium dubium	Little hop clover	UPL
Trifolium glomeratum	Clustered clover	UPL
Trifolium hirtum	Rose clover	UPL
Triteleia hyacinthina	White brodiaea	FAC
Triteleia laxa	Ithuriel's spear	UPL
Typha latifolia	Broad-leaved cattail	OBL
Veronica peregrina subsp. xalapensis	Purslane speedwell	FAC
Vicia sativa	Spring vetch	FACU
Vicia villosa subsp. villosa	Winter vetch	UPL
Vinca major	Greater periwinkle	UPL
Vitis californica	California wild grape	FACU
Vitis vinifera	Wine grape	UPL
Xanthium strumarium	Cocklebur	FAC
Zeltnera muehlenbergii	Monterey centaury	FAC

Attachment D

GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (on CD)

Attachment E

Danbury Park
Wetland Delineation Map
(SPK-2016-00265)

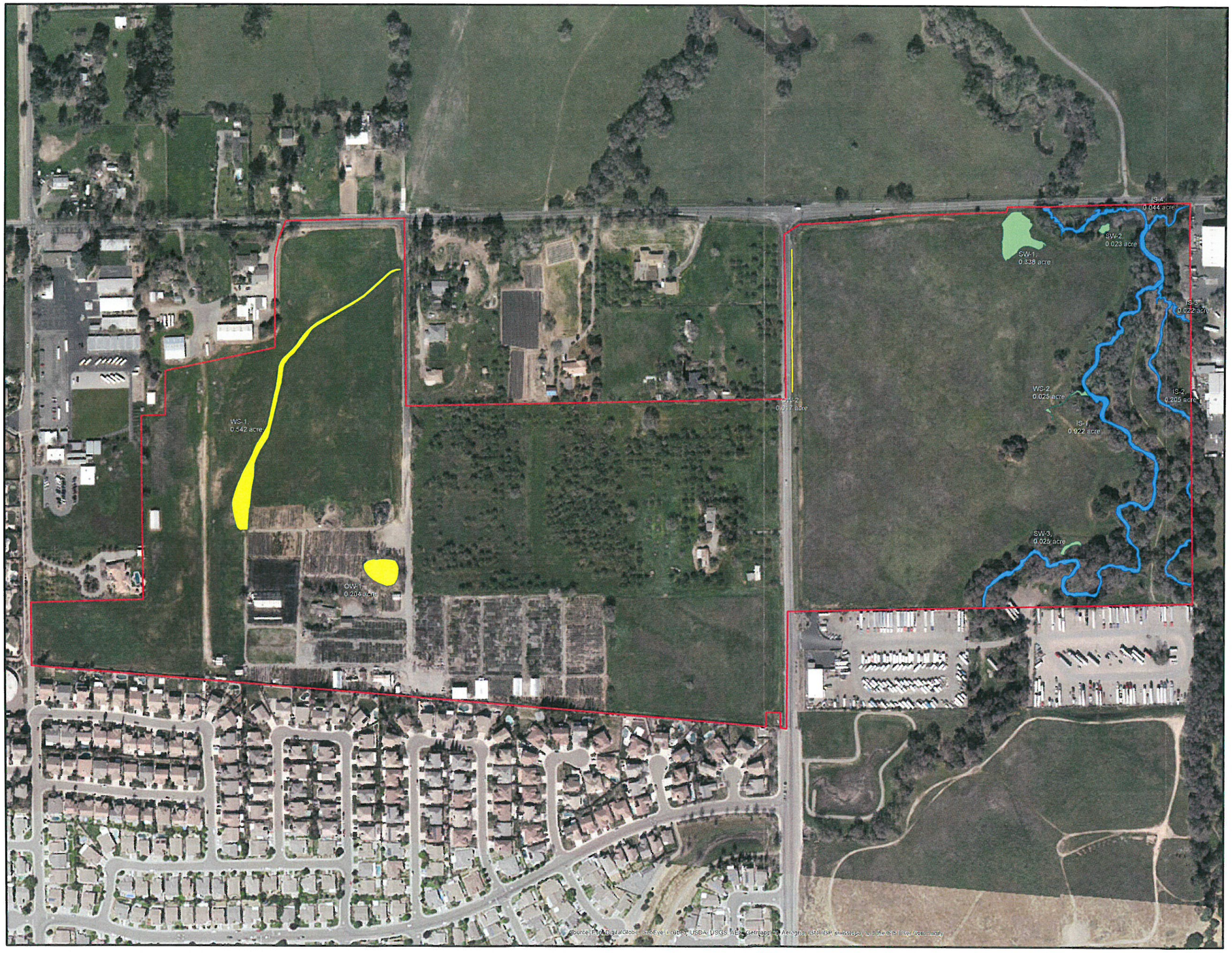


Figure 1:
Danbury Park
Wetland Delineation

Legend

- Study Area (110 acres)
- Non-Jurisdictional Features (0.763 acre)
- Jurisdictional Wetlands (0.412 acre)
- Jurisdictional OWOUS (1.194 acre)

N
W E
S

400 200 0 400
Feet

Coordinate System: NAD 1983 StatePlane
California II FIPS 0402 (US Feet)
Projection: Lambert Conformal Conic
Datum: D_North_American_1983

Created September 16, 2016

Map authored by:
Zachary Fancher, Project Manager
California North Branch, Regulatory Division
U.S. Army Corps of Engineers
1325 J Street, Room 1350
Sacramento, California 95814-2922

Attachment F

Access Letter

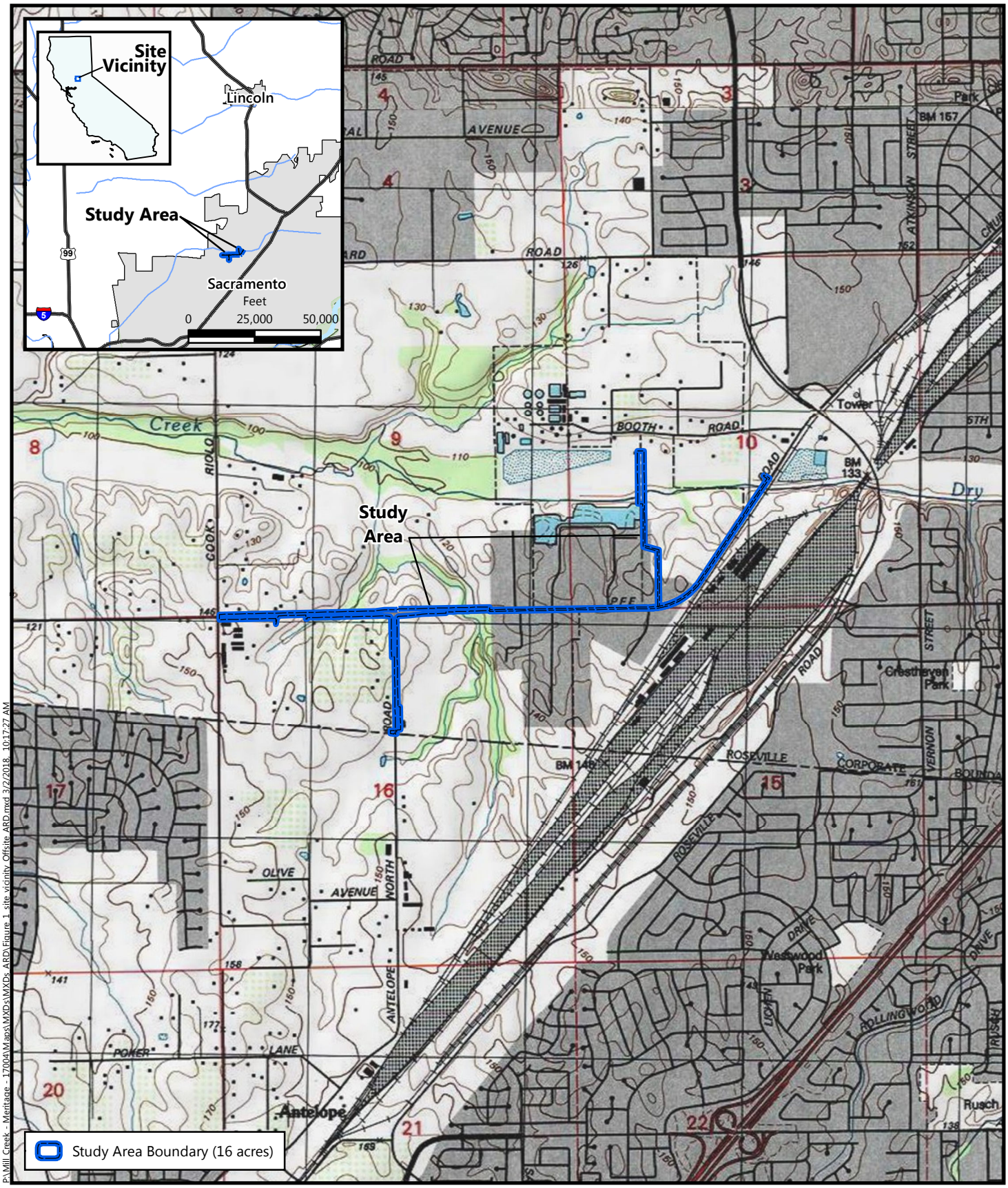
Project Manager
Regulatory Division
U.S. Army Corps of Engineers
1325 J Street, Room 1350
Sacramento, California 95814-2922

Re: Mill Creek Off-Site Access

This letter serves as written permission to enter the Mill Creek Off-Site Infrastructure Areas shown on the attached Figure 1 when accompanied by Madrone Ecological Consulting, LLC (Madrone) staff. When accompanied by Madrone staff, you may dig soil pits by hand and collect plant materials related to the verification of potential Waters of the U.S. in this area. If you have any questions, please contact Sarah VonderOhe at Madrone (916) 822-3230 or svonderohe@madroneeco.com.

Sincerely,

Rob Wilson



Source: United States Geologic Survey, 2013.
"Citrus Heights, California" 7.5-Minute Topographic Quadrangle
Longitude -121.322978, Latitude 38.729855
Sections 9, 10, and 16; Township 10 North, Range 6 East

Figure 1
Vicinity Map

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

P:\Mill Creek - Meritage - 17004\Maps\MXDs\MXDs_ARD\Figure 1_site vicinity_Offsite_ARD.mxd 3/2/2018, 10:17:27 AM