# Preliminary Jurisdictional Determination Report

AT DUBLIN DEVELOPMENT PROJECT (APNs: 985-52-25, 985-52-24, 985-51-6, 985-51-5) DUBLIN, ALAMEDA COUNTY, CALIFORNIA

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### LIST OF ACRONYMS

CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative plant species
FACU	Facultative Upland plant species
FACW	Facultative Wetland plant species
NL	Not Listed
NRCS	Natural Resources Conservation Service
OBL	Obligate plant species
OHWM	Ordinary High Water Mark
PI	Prevalence Index
RWQCB	Regional Water Quality Control Board
UPL	Upland plant species
USGS	U.S. Geological Survey
WRA	WRA, Inc.

#### **1.0 INTRODUCTION**

#### 1.1 Study Background

On behalf of Kimley-Horn, this report presents the results of a delineation of Waters of the U.S. ("waters") under Section 404 of the Clean Water Act (CWA), as well as Waters of the State under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act within the AT Dublin Development project area (Project Area). The approximately 76.9-acre Project Area (APNs: 985-52-25, 985-52-24, 985-51-6, 985-51-5) consists of four vacant lots located between Tassajara Road, Brannigan Street, and Northside Drive in the City of Dublin, Alameda County, California (Figure 1).

On February 22 and March 19, 2018, WRA, Inc. (WRA) conducted a routine wetland delineation in the Project Area to determine the presence of potential wetlands and other waters subject to federal jurisdiction under Section 404 of the CWA. This report presents the results of this delineation.

#### 1.2 Regulatory Background

#### 1.2.1 Clean Water Act Section 404

Section 404 of the CWA gives the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States". Section 502(7) of the CWA defines navigable waters as "waters of the United States, including territorial seas." Section 328 of Chapter 33 in the Code of Federal Regulations (CFR) defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps under the CWA. A summary of this definition of "waters of the U.S." in 33 CFR 328.3 includes (1) waters used for commerce; (2) interstate waters and wetlands; (3) "other waters" such as intrastate lakes, rivers, streams, and wetlands; (4) impoundments of waters. Therefore, for the purposes of the determining Corps jurisdiction under the CWA, "navigable waters" as defined in the CWA are the same as "waters of the U.S." defined in the Code of Federal Regulations above.

The limits of Corps jurisdiction under Section 404 as given in 33 CFR Section 328.4 are as follows: (a) *Territorial seas:* 3 nautical miles in a seaward direction from the baseline; (b) *Tidal waters of the U.S.:* the high tide line or to the limit of adjacent non-tidal waters; (c) *Non-tidal waters of the U.S.:* the ordinary high water mark (OHWM) or to the limit of adjacent wetlands; (d) *Wetlands:* to the lateral limit of the wetland. A discussion of the methodology used to delineate wetlands and waters is presented in Section 3.1.

#### 1.2.2 Section 401 of the Clean Water Act – Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act defines the term "waters of the State" as "any surface water or groundwater, including saline waters, within the boundaries of the state." Waters of the State are regulated by the Regional Water Quality Control Board (RWQCB) under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and under the Porter-Cologne Act. The RWQCB protects all waters of the State within its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and may not be systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and non-wetland waters that may not be regulated by the Corps under Section 404 of the CWA. Projects that require a Corps permit, or that fall under other federal jurisdiction, and have the potential to impact waters of the State, are required to comply with the terms of the



Sources: National Geographic, WRA | Prepared By: smortensen, 3/13/2018

# Figure 1. Project Area Location

AT Dublin Development Project, Dublin, Alameda County, California





Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its State authority in the form of Waste Discharge Requirements.

#### 2.0 SUMMARY OF POTENTIAL JURISDICTIONAL AREAS

The extent of Corps and RWQCB jurisdiction within the Project Area was based on a wetland delineation conducted by WRA on February 22 and March 19, 2018. Appendix A depicts the extent of Corps and RWQCB jurisdiction in the Project Area. See Table 1 – Summary of Potential Jurisdictional Features within the Project Area.

Table 1. Summary of Pote	ntial Jurisdictional Features	within the Project Area.
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Feature Type (FGDC 2013)	Potential Corps Jurisdiction (acres / linear feet)	Potential RWQCB Jurisdiction (acres / linear feet)	
Wetlands			
Seasonal Wetland (PEM2E)	0.66	0.66	
TOTAL	0.66	0.66	

The Project Area contains approximately 0.66 acre that meets the criteria to be potential wetlands. All potential wetlands delineated within the Project Area are likely to be considered potential jurisdictional features under CWA Section 404, CWA Section 401, and the Porter-Cologne Water Quality Control Act.

#### 3.0 METHODS

Prior to conducting field surveys, available reference materials were reviewed, including online soil survey data for the Project Area (California Soil Resources Lab [CSRL] 2018), the U.S. Geological Survey (USGS) 7.5-minute quadrangle map for Livermore (USGS 2015), the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data (USFWS 2018), precipitation data (National Oceanic and Atmospheric Administration [NOAA] 2018), WETS precipitation data (USDA 2018a), and available aerial photographs of the Project Area (Google Earth 2018). Following the background data search, WRA biologists performed a focused evaluation of indicators of wetlands and waters at the Project Area on February 22 and March 19, 2018.

The methods used in this study to delineate jurisdictional wetlands and non-wetland waters are based on the U.S. Army Corps of Engineers Wetlands Delineation Manual ("Corps Manual"; Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region ("Arid West Supplement"; Corps 2008a), and A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States ("OHWM Guide;" Corps 2008b). The routine method for wetland delineation described in the Corps Manual was used to identify areas potentially subject to Corps Section 404 jurisdiction within the Project Area.

A general description of the Project Area, including the on-site vegetation communities, topography, and land use was also generated during the site visit. The methods for evaluating the presence of wetlands and non-wetland waters employed during the delineation are described in detail below.

#### 3.1 Potential Section 404 Waters of the U.S.

#### 3.1.1 Wetlands

The Project Area was evaluated for the presence or absence of indicators of the three wetland parameters described in the Corps Manual (Environmental Laboratory 1987) and the Arid West Supplement (Corps 2008a).

Section 328.3 of the Federal Code of Regulations defines wetlands as:

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

EPA, 40 CFR 230.3 and CE, 33 CFR 328.3 (b)

The three parameters used to delineate wetlands are the presence of: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. According to the Corps Manual, for areas not considered "problem areas" or "atypical situations":

# "....[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination."

Data on vegetation, hydrology, and soils collected at sample points during the delineation site visits were reported on Arid West Supplement data forms. Once an area was determined to be a potential jurisdictional wetland, its boundaries were delineated using Global Positioning System equipment and mapped on a topographic map. The areas of potential jurisdictional wetlands were measured digitally using ArcGIS software. Indicators described in the Arid West Supplement were used to make wetland determinations at each sample point in the Project Area and are summarized below.

#### Vegetation

Plant nomenclature follows the Jepson Flora Project (2018). Plant species identified on the Project Area were assigned a wetland status according to the USFWS list of plant species that occur in wetlands (Lichvar et al. 2016). This wetland classification system is based on the expected frequency of occurrence in wetlands as follows:

OBL:	Obligate species	Almost always a hydrophyte, rarely in uplands
FACW:	Facultative Wetland species	Usually a hydrophyte, but occasionally found in uplands
FAC:	Facultative species	Commonly either a hydrophyte or non-hydrophyte
FACU:	Facultative Upland species	Occasionally a hydrophyte, but usually found in uplands
NL/UPL:	Upland/Not Listed species	Rarely a hydrophyte, almost always in uplands

The presence of hydrophytic vegetation was then determined based on indicator tests described in the Arid West Supplement. The Arid West Supplement requires that a three-step process be

conducted to determine if hydrophytic vegetation is present. The procedure first requires the delineator to apply the "50/20 rule" (Indicator 1; Dominance Test) described in the Arid West Supplement. To apply the "50/20 rule", dominant species are chosen independently from each stratum of the community. Dominant species are determined for each vegetation stratum from a sampling plot of an appropriate size surrounding the sample point. Dominants are the most abundant species that individually or collectively account for more than 50 percent of the total vegetative cover in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total vegetative cover. If greater than 50 percent of the dominant species has an OBL, FACW, or FAC status, ignoring + and - qualifiers, the sample point meets the hydrophytic vegetation criterion.

If the sample point fails Indicator 1 and both hydric soils and wetland hydrology are not present, then the sample point does not meet the hydrophytic vegetation criterion, unless the site involves difficult wetland situations. However, if the sample point fails Indicator 1 but hydric soils and wetland hydrology are both present, the delineator must apply Indicator 2.

Indicator 2 is known as the Prevalence Index (PI). The PI is a weighted average of the wetland indicator status for all plant species within the sampling plot. Each indicator status is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5). Indicator 2 requires the delineator to estimate the percent cover of each species in every stratum of the community and sum the cover estimates for any species that are present in more than one stratum. The delineator must then organize all species into groups according to their wetland indicator status and calculate the PI using the following formula, where A equals total percent cover:

$$PI = \frac{A_{OBL} + 2A_{FACW} + 3A_{FAC} + 4A_{FACU} + 5A_{UPL}}{A_{OBL} + A_{FACW} + A_{FAC} + A_{FACU} + A_{UPL}}$$

The PI will yield a number between 1 and 5. If the PI is equal to or less than 3, the sample point meets the hydrophytic vegetation criterion.

#### <u>Soils</u>

The Natural Resources Conservation Service (NRCS) defines a hydric soil as follows:

"A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part."

Federal Register July 13, 1994, U.S. Department of Agriculture, NRCS

Soils formed over long periods of time under wetland (anaerobic) conditions often possess characteristics that indicate they meet the definition of hydric soils. Hydric soils can have a hydrogen sulfide (rotten egg) odor, low chroma matrix color, generally designated 0, 1, or 2, used to identify them as hydric, presence of redox concentrations, gleyed or depleted matrix, or high organic matter content.

Specific indicators that can be used to determine whether a soil is hydric for the purposes of a wetland delineation are provided in *Field Indicators of Hydric Soils in the United States* (USDA 2017). The Arid West Supplement provides a list of 23 of these hydric soil indicators known to occur in the Arid West region. Soil samples were collected and described according to the

methodology provided in the Arid West Supplement. Soil chroma and values were determined by utilizing a standard Munsell soil color chart (Munsell Color 2009).

Hydric soils were determined to be present if any of the soil samples met one or more of the 23 hydric soil indicators described in the Arid West Supplement.

#### <u>Hydrology</u>

The Corps jurisdictional wetland hydrology criterion is satisfied if an area is inundated or saturated for a period sufficient to create anoxic soil conditions during the growing season (a minimum of 14 consecutive days in the Arid West region). Evidence of wetland hydrology can include primary indicators, such as visible inundation or saturation, drift deposits, oxidized root channels, and salt crusts, or secondary indicators such as the FAC-neutral test, presence of a shallow aquitard, or crayfish burrows. The Arid West Supplement contains 16 primary hydrology indicators and 10 secondary hydrology indicators. Only one primary indicator is required to meet the wetland hydrology criterion; however, if secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology.

The presence or absence of the primary or secondary indicators described in the Arid West Supplement was utilized to determine if sample points within the Project Area met the wetland hydrology criterion.

#### 3.1.2 Non-Wetland Waters

This study also evaluated the presence of "waters of the U.S." other than wetlands potentially subject to Corps jurisdiction under Section 404 of the CWA. Other areas, besides wetlands, subject to Corps jurisdiction include lakes, rivers and streams (including intermittent streams), in addition to all areas below the high tide line in areas subject to tidal influence. Corps jurisdiction in non-tidal areas extends to the OHWM defined as:

"...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Federal Register Vol. 51, No. 219, Part 328.3 (e). November 13, 1986

Identification of the OHWM followed the OHWM Guide (Corps 2008b).

#### 3.2 Problem Areas and Difficult Wetland Situations in the Arid West

The Arid West Supplement (Corps 2008a) includes recommended procedures for completing wetland delineations in areas of "difficult wetland situations." The Corps Manual describes "problem areas," defined as naturally occurring wetland types, which periodically lack wetland indicators due to normal seasonal or annual variability.

The list of difficult wetland situations provided in the Arid West Supplement includes wetlands with problematic hydrophytic vegetation, problematic hydric soils, and wetlands that periodically lack indicators of wetland hydrology. Although the Corps Manual and Arid West Supplement were utilized in the wetland determination, they do not provide exhaustive lists of the difficult situations and problem areas that can arise during delineations in the Arid West. Thus, it is important to use

best professional judgment and knowledge of the ecology of the wetlands in the region during the collection and interpretation of wetland delineation data for problematic sites.

#### 4.0 SITE DESCRIPTION

#### 4.1 Location

#### 4.1.1 Location

The approximate 76.9-acre project site is located in the City of Dublin, Alameda County, north of Interstate 580 and between Tassajara Road and Brannigan Street. The project site is located within the Livermore, California, USGS 7.5-minute topographic quadrangle in Township 2S, Range 1E, Section 33 (northern portion) and in Township 3S, Range 1E, Section 4 (southern portion).

#### 4.1.2 Existing Setting

The project site contains vacant land and is generally flat with a slight slope from a higher elevation at the northerly boundary to a slightly lower elevation towards the southerly boundary. At one time, the property was used for agricultural purposes and has since remained vacant (except for temporary seasonal uses) with low-lying native and non-native grasses turned periodically for the purposes of weed abatement. A small group of trees and shrubs is located near the corner of Tassajara Road and Central Parkway. No grading for development purposes has occurred to date.

#### 4.1.3 Surrounding Land Uses

The site is surrounded by commercial uses to the southwest and southeast, and by residential uses to the northwest and northeast. Single-family, medium-density residential uses are located to the north. A broad mix of land uses are located to the east, including multi-family residential uses, general commercial uses, and a vacant parcel at the southeast corner of Dublin Boulevard and Brannigan Street. Interstate 580 and the City of Pleasanton are located south of the project site. Medium density residential, parks/public recreation, general commercial, and campus office uses are located to the west.

#### 4.2 Vegetation

Vegetation within the Project Area consists of disturbed, ruderal, and non-native annual grassland, dominated by a variety of non-native grasses and forbs. Upland areas within the Project Area are dominated by upland grasses, in particular, slim oat (*Avena barbata*; NL), ripgut brome (*Bromus diandrus*; NL), and soft chess (*Bromus hordeaceus*; FACU). Non-native forbs are also common, including Italian thistle (*Carduus pycnocephalus*; NL), big heron's bill (*Erodium botrys*; FACU), and black mustard (*Brassica nigra*; NL).

Wetlands within the Project Area generally had sparser vegetation cover compared to adjacent uplands and were typically dominated by a small number of non-native grasses and forbs. Commonly observed species in seasonal wetlands included Italian ryegrass (*Festuca perennis*; FAC), hyssop loosestrife (*Lythrum hyssopifolia*; OBL), and curly dock (*Rumex crispus*; FAC). Seasonal wetlands are discussed in further detail in Section 5.1. A list of all plant species observed within the Project Area during the field survey is provided in Appendix D.

#### 4.3 Soils

The online soil survey of the Project Area (CSRL 2018) indicates that the Project Area contains five native soil mapping units (Figure 2). The soil series that contain those mapping units are described below.

<u>Clear Lake Series</u>. The Clear Lake series consists of very deep, poorly drained soils located on plains and flat basins, which formed in alluvium derived from sandstone and shale. A representative profile for the series consists of a very dark gray (N 3/0) clay layer, 39 inches thick, with few faint redoximorphic concentrations in the upper 13 inches. A light olive brown (2.5Y 5/4) clay layer with light yellowish brown (10YR 6/4) masses of iron accumulations occurs below this layer to a depth of approximately 60 inches. This soil is a very hard, firm, and very sticky clay. This soil type is listed as hydric (USDA 2018b), but the two soil mapping units in this series that are present within the Project Area are drained (Clear Lake clay, drained, 3 to 7 percent slopes, and Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14), and any hydric soil indicators observed within these mapping units may be relict.

<u>Sycamore Series</u>. The Sycamore series consists of poorly drained soils that formed in alluvium from sedimentary rock on floodplains. Typically, Sycamore soils contain grayish-brown (2.5Y 5/2), slightly acidic, slightly clay loam A horizons that are approximately 15 inches thick; grayish brown and light brownish-gray (2.5Y 4/4), distinctly mottled, mildly to moderately alkaline, silt loam B horizons that extend to a depth of 27 inches; and stratified light brownish-gray and pale brown (10YR 6/3) mottled loam, fine sandy loam and loamy fine sand calcareous C horizons. This soil type is listed as hydric (USDA 2018b).

Linne Series. The Linne series consists of moderately deep, well drained soils on hills with slopes of 5 to 75 percent. They formed in material weathered from fairly soft shale and sandstone and have medium to very rapid runoff and moderately slow permeability. In a typical profile, the surface layer is composed of black (10YR 2/1), moderately alkaline clay loam that extends 9 inches in depth. This soil is underlain by black to very dark gray (10YR 3/1), moderately alkaline clay loam that extends up to 29 inches in depth. From 29 to 32 inches, the soil is composed of gray and light brownish gray (10YR 5/1 and 6/2), moderately alkaline sandy clay loam. From 32 to 36 inches, the soil is composed of very pale brown and white (10YR 7/2 and 8/2) moderately alkaline fine sandy loam. Lastly, from 36 to 51 inches, the soil is comprised of light gray and pale yellow (2.5Y 7/2 and 8/4) moderately alkaline mudstone. This soil type is listed as hydric (USDA 2018b).

<u>Sunnyvale Series</u>. The Sunnyvale series consists of poorly drained, calcareous soils on nearly level valley floors north of Pleasanton. The surface soil is gray, granular, slightly calcareous, heavy clay loam. Sunnyvale soils are often used for irrigated row crops, for pasture, and for dry-farmed grain. A representative profile for the Sunnyvale series consists of an Ap horizon from 0 to 6 inches with dark gray to very dark grey (N4/ - N3/) silty clay. Similar colors are seen in an Alc2 horizon of silty clay from 6 to 14 inches in depth. A Clca horizon extends from 14 to 34 inches in depth, with light grey to dark grey (N7/ - N3/) silty clay. This soil type is listed as hydric (USDA 2018b).

#### 4.4 Hydrology

All precipitation occurs as rainfall within the Project Area, and rainwater provides a water source for the entire site during the winter and spring months. The hydrologic source for the potential seasonal wetlands present in the Project Area is primarily runoff from the Project Area and adjacent developed lands, subsurface input, and direct precipitation.



Sources: National Geographic, SSURGO, WRA | Prepared By: smortensen, 1/2/2018

# Figure 2. Soils Located within the Project Area

AT Dublin Development Project, Dublin, Alameda County, California





The annual average rainfall for the Livermore climate station (NCDC #4997), located approximately 5.5 miles east of the Project Area, is 14.64 inches (USDA 2018a). A WETS analysis (USDA 1995) for Livermore was performed prior to the field investigation. The 3-month period preceding the December 7, 2017, field investigation was considered normal; November was normal, December was below normal, and January was normal. The 3-month period preceding the March 19, 2018, field investigation was considered below normal: December was below normal, and February was below normal. The water-year-to-date (October 1, 2017, through March 18, 2018) has been dry, as 8.63 inches of rain have been recorded, which is approximately 59 percent of the normal total for the average water year through March (October 1 through March 31) (NOAA 2018).

#### 5.0 RESULTS

Potential Section 404 and 401 jurisdictional areas are summarized in Table 1 – Summary of Potential Jurisdictional Features within the Project Area and are depicted in Appendix A. Vegetation, soils, and hydrology data collected during the delineation site visit are reported on standard Corps Arid West wetland delineation data forms, which are included in Appendix B. Photographs of representative portions of the Project Area and sample points are shown in Appendix C. A list of all plant species observed during the site visit is included in Appendix D.

#### 5.1 Potential Section 404 Waters of the U.S.

#### 5.1.1 Wetlands

The Project Area contains five wetland features totaling approximately 0.66 acre. Wetlands within the Project Area comprise a single wetland category, seasonal wetland, as illustrated in Appendix A. Areas that were classified as uplands did not meet indicators of two or more wetland parameters.

#### Seasonal wetland (PEM2E)

Approximately 0.66 acre of seasonal wetlands are present within the Project Area. Seasonal wetlands within the Project Area, with the exception of W06, are shallow, closed depressions that typically contain a small surface area. The boundaries of the seasonal wetlands within the Project Area were primarily determined based on subtle to distinct changes in topography and vegetation composition. Vegetation cover in seasonal wetlands within the Project Area was dominated by non-native annual species. The Dominance Test hydrophytic vegetation indicator was met at all wetland sample points. Seasonal wetlands within the Project Area are situated on clay or clay loam soils. Soils were very dark gray (10YR 3/1) to dark grayish-brown (10YR 4/2) with dark brown (7.5YR 3/4) distinct to prominent redoximorphic concentrations. Wetland sample points met the Depleted Matrix (F3), Redox Dark Surface (F6), and Redox Depressions (F8) hydric soil indicators. Wetland sample points met the Surface Water (A1), High Water Table (A2), Saturation (A3), Salt Crust (B11), Inundation Visible on Aerial Imagery (B7), and/or Biotic Crust (B12) primary wetland hydrology indicators. Given the highly altered and regularly disturbed nature of the site, as well as the lack of a dominance by or characteristic presence of species associated with vernal pools, wetlands within the Project Area were classified as seasonal wetlands rather than vernal pools.

W01 and W02 are small, shallow depressions that appear to have been formed as a result of historic disturbance but are located in an area that does not appear to experience significant modern disturbance. The wetland bottoms were sparsely vegetated, and the pools were dominated by non-native species (i.e., Italian ryegrass and curly dock).

W03 is located adjacent to Northside Drive in a ruderal area with compacted soil where vehicles regularly drive through and/or park. Based on analysis of historic aerial imagery (Google Earth 2018, Nationwide Environmental Title Research [NETR] 2018), this feature does not appear to be a remnant of the historic, unaltered topography, but rather the result of anthropogenic disturbance. Here, the vegetation was dominated by non-native species, such as Italian ryegrass and hyssop loosestrife, though stipitate popcornflower (*Plagiobothrys stipitatus*) was present at low cover. Upland, non-native annual species, such as slim oat and black mustard, were encroaching on all sides of the feature.

W04, located in the southeast corner of the Project Area, is a broad, shallow depression that forms where site drainage backs up against the berm and wall along the eastern boundary of the Project Area. The feature is disced as part of annual sitewide fuel reduction activity. W04 was dominated by non-native annual forbs such as Italian ryegrass, hyssop loosestrife, and bur clover (*Medicago polymorpha*; FACU). Few native species were present, including Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*; FACW) and at very low cover, stipitate popcornflower.

W05 is a small, shallow depression situated in a low spot where water collects at the base of the Gleason Drive road embankment. The feature is disced as part of annual sitewide fuel reduction activity, and it is located in a strip of land bordering the fenceline that appears to have been treated with herbicide. Here, the vegetation was sparse and was dominated by hyssop loosestrife and Italian ryegrass.

W06 is a small, flat-to-gently-sloping area of whitish clay soils located southwest of the Dublin Boulevard and Barrington Street intersection. This area is disced as part of annual sitewide fuel reduction activity. Vegetation in this feature is sparse and dominated by Italian ryegrass, though scattered individuals of hyssop loosestrife, stipitate popcornflower and woolly marbles (*Psilocarphus* oregonus; OBL) are present.

#### 5.2 Potential Section 401 Waters of the State

All of the 0.66 acre of seasonal wetlands mapped within the Project Area are potentially jurisdictional by the RWQCB under Section 401 of the CWA and/or the Porter-Cologne Act.

#### 6.0 POTENTIAL JURISDICTIONAL AREAS

The conclusions of this report are based on conditions observed at the time of the field delineation conducted February 22 and March 19, 2018. See Table 1 – Summary of Potentially Jurisdictional Features within the Project Area.

#### 6.1 Potential Corps Jurisdiction

Based on the findings of the wetland delineation, the Project Area contains approximately 0.66 acre of areas mapped as wetlands that are potentially jurisdictional of the Corps under Section 404 of the CWA. Seasonal wetland was the sole wetland type delineated within the Project Area.

#### 6.2 Potential RWQCB Jurisdiction

All 0.66 acre of areas mapped as wetlands within the Project Area are considered potentially jurisdictional Waters of the State under Section 401 of the CWA and/or the Porter-Cologne Act.

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APPENDIX A -- Preliminary Jurisdictional Map



**Appendix A - Preliminary Jurisdictional Determination** 

AT Dublin Development Project, Dublin, Alameda County, California





APPENDIX B -- Arid West Wetland Delineation Data Sheets

Project/Site AT Dublin Development Project	City Dublin County Alameda		Sampling Date <u>2/22/2018</u>			
Applicant/Owner Shea Homes		State CA	Sampling Point <u>SP01</u>			
Investigator(s) Scott Batiuk, Nathaniel Clark		Section,Township,Range T3S, R1E				
Landform (hillslope, terrace, etc.) <u>Terrace</u>	Local Re	Local Relief (concave, convex, none) None Slope(				
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.703283</u>	Long: <u>-121.871446</u>	Datum: WGS 84			
Soil Map Unit Name <u>Sycamore silt loam</u>		NWI classificati	on None			
Are climatic/hydrologic conditions on-site typical for this time of year? 🛛 Yes 🔲 No 🛛 (If no, explain in remarks)						
Are any of the following significantly disturbed?	Are any of the following significantly disturbed? 🛛 Vegetation 🗔 Soil 🗔 Hydrology 🛛 Are "Normal Circumstances" present? 🛛 Yes 🗔 No					
Are any of the following naturally problematic?	Are any of the following naturally problematic? 🛛 Vegetation 🗔 Soil 🔲 Hydrology 🔹 (If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.						
Hydrophytic Vegetation Present?X YesHydric Soil Present?X YesWetland Hydrology Present?Yes	No     No     No     No	Is the Sampled Area Xithin a Wetland?	∕es □No			
Remarks: SP01 is located in a shallow, small depression in a flat, weedy field in the southwest corner of the Project Area. SP01 meets wetland criteria for hydrophytic vegetation, hydric soils, and wetland hydrology. SP01 is paired with upland sample point SP02.						

1.	cover	Species?	Status	Number of Dominant Species3(A)that are OBL, FACW, or FAC?Total number of dominant3(B)species across all strata?3(B)
2				Total number of dominant3(B)3
4 Tree Stratum Total Cover: SAPLING/SHRUB STRATUM Plot Size: N 1				
SAPLING/SHRUB STRATUM Plot Size:N				% of dominant species that
1	I/A			Prevalence Index Worksheet
''				Total % cover of: Multiply by:
10				OBL species x1
2				FACW species x2
[ <sup>3.</sup>				FAC species x3
*				FACU species x4
Sapling/Shrub Stratum Total Cover:				UPL species x5
HERB STRATUM Plot Size: 5' radius				Column Totals (A) (B)
1. Festuca perennis	15	<u> </u>	FAC	
2. Rumex crispus	10	<u> </u>	FAC	Prevalence Index = B/A =
3. Hordeum marinum	10	<u> </u>	FAC	Hydrophytic Vegetation Indicators
4. Dittrichia graveolens	1	<u> </u>	NL	Dominance Test is >50%
5				Prevalence Index is $$
6				Morphological adaptations (provide
7				supporting data in remarks)
8				Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover:	36			
WOODY VINE STRATUM Plot Size: N/A				'Indicators of hydric soil and wetland hydrology
1				
2				
Woody Vines Total Cover:				Hydrophytic X Yes D No
% Bare ground in herb stratum 24 %	o cover of l	piotic crust 40		Vegetation Present ?

SOIL	
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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 <sup>1</sup>	Loc <sup>1</sup>	Texture	Rema	arks
0-12	10YR 3/1	90	7.5YR 3/4	10	С	M, PL	Silty clay loam		
	ncentration, D=De	epletion, RN	/-Reduced Matrix.	<sup>2</sup> Loca	ntion: PL=F	Pore Linin	g, RC=Root Channel, M	I=Matrix	
Hydric Soil I	ndicators: (Appl	icable to al	II LRRs, unless othe	rwise no	ted.)		Indicators for Probl	ematic Hydr	ic Soils <sup>3</sup> :
□       Histosol (A1)       □       Sandy Redox (S5)       □       1cm Muck (A9) (LRR C)         □       Histic Epipedon (A2)       □       Stripped Matrix (S6)       □       2cm Muck (A10)(LRR B)         □       Black Histic (A3)       □       Loamy Mucky Mineral (F1)       □       Reduced Vertic (F18)         □       Hydrogen Sulfide (A4)       □       Loamy Gleyed Matrix (F2)       □       Red Parent Material (TF2)         □       Stratified Layers (A5)(LRR C)       □       Depleted Matrix (F3)       □       Other (explain in remarks)         □       1cm Muck (A9)(LRR D)       ☑       Redox Dark Surface (F6)       □       Other (explain in remarks)         □       Depleted Below Dark Surface (A11)       □       Depleted Dark Surface (F7)       □       Thick Dark Surface (A12)       ☑       Redox Depressions (F8)       □       3       Indicators of hydric vegetation and wetland hydrology must be present.         □       Sandy Gleyed Matrix (S4)       □       Vernal Pools (F9)       ³Indicators of hydric vegetation and wetland hydrology must be present.					and ent.				
Restrictive Layer (if present):       Type:         Type:									
Remarks: <sub>SP</sub>	01 meets the Rec	dox Dark Sເ	urface (F6) and Redo>	Depress	sions (F8)	hydric soil	indicators.		

Wetland Hydrology Indicators:       Secondary Indicators (2 or more required         Primary Indicators (any one indicator is sufficient)							
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>☐ Salt Crust (B11)</li> <li>☑ Biotic Crust (B12)</li> <li>☐ Aquatic Invertebrates (B13)</li> <li>☐ Hydrogen Sulfide Odor (C1)</li> <li>) ☐ Oxidized Rhizospheres along Living</li> <li>☐ Presence of Reduced Iron (C4)</li> <li>☐ Recent Iron Reduction in PLowed S</li> <li>(B7) ☐ Other (Explain in Remarks)</li> </ul>	Water Marks (B1)(Riverine)         Sediment Deposits (B2)(Riverine)         Drift Deposits (B3)(Riverine)         Drift Deposits (B3)(Riverine)         Drift Deposits (B3)(Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Thin Muck Surface (C7)         Crayfish Burrows (C8)         Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)					
Field Observations: Surface water present? □ Yes ⊠	No Depth (inches):						
Water table present?	No Depth (inches):						
Saturation Present? Xes (includes capillary fringe)	No Depth (inches): <u>0-12</u>	Wetland Hydrology Present ? 🛛 Yes 🗌 No					
Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.							
Remarks: SP01 meets the Saturation (A3) and Biotic Crust (B12) hydric soil indicators. Portions of the feature have saturation in upper 12 inches, but unknown if a water table was deeper.							

Project/Site AT Dublin Development P	roject	City <u>Dublin</u>	County A	lameda		Sampling Date 2/22/2	2018
Applicant/Owner <u>Shea Homes</u>				State <u>CA</u>	Sam	pling Point <u>SP02</u>	
Investigator(s) Scott Batiuk, Nathanie	Clark		Section,To	wnship,Range <u>T3S</u> ,	, R1E		
Landform (hillslope, terrace, etc.) Field	ı	Local Rel	ief (concave, co	nvex, none) <u>None</u>		Slope(%)	0
Subregion(LRR) LRR C (Medit. CA)		Lat: <u>37.703277</u>		Long: <u>-121.871487</u>		Datum: WGS 84	
Soil Map Unit Name Sycamore silt lo	am			NWI class	ification <u>No</u>	ne	
Are climatic/hydrologic conditions on-	site typical fo	or this time of year?	🛛 Yes 🛛 No	(If no, explain in	remarks)		
Are any of the following significantly d	isturbed?	□ Vegetation □ S	oil 🔲 Hydrolog	gy Are "Normal Ci	rcumstances	s" present? 🛛 Yes	🗆 No
Are any of the following naturally prob	lematic?	□ Vegetation □ S	oil 🔲 Hydrolog	gy (If needed, e	xplain any a	answers in remarks)	
SUMMARY OF FINDINGS - Attac	<u>ch site ma</u>	p showing sample	point location	ns, transects, imp	ortant feat	tures, etc.	
Hydrophytic Vegetation Present?	🛛 Yes 🛛	] No	Is the Sar	npled Area			
Hydric Soil Present?	🛛 Yes 🛛	🛛 No	within a V	Vetland?	L Yes	<u>الم</u> No	
Wetland Hydrology Present?	🗌 Yes 🛛	🛛 No					
Remarks: SP02 is located in an upla but does not meet wetland	nd area in th criteria for	he southwestern corner hydric soils and wetlan	r of the Project A d hvdrology. SF	Area. SP02 meets we	etland criteria	a for hydrophytic vege point SP01.	etation,

	Absolute	Dominant	Indicator	Deminent Test Westerberg
TREE STRATUM Plot Size: N/A	% cover	Species?	Status	Dominance Test Worksheet
1				Number of Dominant Species         2         (A)           that are OBL, FACW, or FAC?
2				Total number of dominant (B) (B)
4 Tree Stratum Total Cover:		·		% of dominant species that(A/B) are OBL, FACW, or FAC?
	N/A	-		Prevalence Index Worksheet
<u> SAPLING/SHRUBSTRATUM</u> Plot Size:	N/A	-		Total % cover of: Multiply by:
1.         2.         3.         4.				OBL species         x1           FACW species         x2           FAC species         x3
Sanling/Shrub Stratum Total Cover:				FACU species x4
		-		UPL species x5
HERB STRATUM Plot Size: 5' radius			540	Column Totals (A) (B)
1. Festuca perennis	40	Y	FAC	$\frac{1}{1}$
2. Hordeum marinum	30	Y	FAC	
3. Dittrichia graveolens	3	<u> </u>		Hydrophytic Vegetation Indicators
4. Rumex crispus		<u> </u>		Dominance Test is >50%
5. Convolvulus arvensis	1	<u> </u>		Prevalence Index is $$
6. Marvella leprosa	+	N		Morphological adaptations (provide supporting data in remarks)
0				Problematic hydrophytic vegetation <sup>1</sup> (explain)
	10	-		<sup>1</sup> Indicators of hydric soil and wetland hydrology
WOODY VINE STRATUM Plot Size:	N/A			must be present, unless disturbed or problematic.
1		<u> </u>		
2		- <u> </u>		
Woody Vines Total Cover:		-		Hydrophytic Vegetation Present 2 Yes I No
% Bare ground in herb stratum 22	% cover of	biotic crust 0		vegetation Flesent :
Remarks: SP02 meets the Dominance Test hydr	ophytic vegetati	on indicator.		

SOIL
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Profile descr Depth	iption: (Describe Matrix	to the de	pth needed to docum Redo	ent the in x Features	dicator o	or confirm	m the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>1</sup>	Texture Remarks
0-12	10YR 3/2	100	<u>-</u>	<u>-</u>		<u>-</u>	Silty clay loam
<sup>1</sup> Type: C=Co	ncentration, D=De	pletion, RI	M=Reduced Matrix.	<sup>2</sup> Locati	on: PL=P	ore Lining	ng, RC=Root Channel, M=Matrix
Histosol Histic Ep Black His Stratified Completed Thick Da Sandy M Sandy G	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5)(LRR k (A9)(LRR D) Below Dark Surfa rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4)	C) ce (A11)	<ul> <li>Sandy Redox (S5</li> <li>Stripped Matrix (S</li> <li>Loamy Mucky Min</li> <li>Loamy Gleyed Ma</li> <li>Depleted Matrix (F</li> <li>Redox Dark Surfa</li> <li>Depleted Dark Su</li> <li>Redox Depression</li> <li>Vernal Pools (F9)</li> </ul>	6) eral (F1) trix (F2) <sup>7</sup> 3) ce (F6) rface (F7) ns (F8)			<ul> <li>1 cm Muck (A9) (LRR C)</li> <li>2 cm Muck (A10)(LRR B)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Other (explain in remarks)</li> </ul>
Restrictive L	ayer (if present):						
Depth (inch	es):						Hydric Soil Present ? 🛛 Yes 🛛 No
Remarks: <sub>SP</sub>	02 does not meet	hydric soil	indicators.				

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is suffici	ent)		
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	g Roots (C3) Soils (C6)	<ul> <li>Water Marks (B1)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Field Observations:			
Surface water present?   Yes  No	Depth (inches):		
Water table present?  Yes X No	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland I	Hydrology Present ? 🛛 Yes 🛛 No
Describe recorded data (stream guage, monite	oring well, aerial photos, etc.) if available	9.	
Remarks: SP02 does not meet wetland hydrol	ogy indicators.		

Project/Site AT Dublin Development Project	City Dublin	County <u>Alameda</u>	Sampling Date 2/22/2018
Applicant/Owner Shea Homes		State CA	Sampling Point SP03
Investigator(s) Scott Batiuk, Nathaniel Clark		Section,Township,Range	<u> </u>
Landform (hillslope, terrace, etc.)Terrace	Local Reli	ef (concave, convex, none) <u>None</u>	Slope(%) <u>0</u>
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.702997</u>	Long: -121.869122	Datum: WGS 84
Soil Map Unit Name Clear Lake clay, drained	d, 0 to 2 percent slopes, ML	RA 14 NWI classifica	tion None
Are climatic/hydrologic conditions on-site typic	cal for this time of year?	🛾 Yes 🔲 No 🛛 (If no, explain in rem	arks)
Are any of the following significantly disturbed	? Uvegetation So	oil 🔲 Hydrology 🛛 Are "Normal Circum	istances" present? 🛛 Yes 🔲 No
Are any of the following naturally problematic?	? DVegetation DS	oil 🔲 Hydrology (If needed, expla	in any answers in remarks)
SUMMARY OF FINDINGS - Attach site	map showing sample	point locations, transects, importa	int features, etc.
Hydrophytic Vegetation Present?X YesHydric Soil Present?X YesWetland Hydrology Present?X Yes	s 🗌 No s 🔲 No s 🔲 No	Is the Sampled Area X within a Wetland?	Yes 🗌 No
Remarks: SP03 is located in a broad, shallor break, where present, and a shift hydrology. SP03 is paired with up	w depression in the southea to upland vegetation. SP03 pland sample point SP04.	ast corner of the Project Area. The bound meets wetland criteria for hydrophytic ve	lary is based on a slight topography getation, hydric soils, and wetland

TREE STRATUM Plot Size: N/A	Absolute % cover	Dominant	Indicator Status	Dominance Test Worksheet
				Number of Dominant Species <u>1</u> (A) that are OBL, FACW, or FAC?
2		· ·		Total number of dominant1(B) species across all strata?
4 Tree Stratum Total Cover:		·		% of dominant species that(A/B) are OBL, FACW, or FAC?
SAPLING/SHRUB STRATUM Plot Size:	N/A			Prevalence Index Worksheet
1				<u>I otal % cover of:</u> Multiply by:
2.				OBL species x1
3.				FACW species x2
4.				FAC species x3
Sapling/Shrub Stratum Total Cover:				FACU species x4
HERB STRATUM Plot Size: 5' radius				UPL species x5
Festuca perennis		Y	FAC	Column Totals (A) (B)
2. Medicago polymorpha	7	N	FACU	Prevalence Index = B/A =
3. Brassica nigra	3	N	NI	Hydrophytic Vegetation Indicators
Lamium amplexicaule	1	N	NL	
Avena barbata	1	N	NL	
6				Prevalence Index is = 3.0</td
7				Morphological adaptations (provide supporting data in remarks)
8		<u> </u>		$\square$ Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover:	42	_		<b>—</b>
WOODY VINE STRATUM Plot Size:	N/A			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.				
Woody Vines Total Cover:				Hydrophytic M Ves D No.
% Bare ground in herb stratum 58	% cover of	biotic crust 0		Vegetation Present ?
Remarks: SP03 meets the Dominance Test hydro	ophytic vegetati	on indicator.		•

SOIL								Sampling Po	int SP03
Profile desc	ription: (Describe	e to the de	pth needed to docu	ment the	indicator	or confir	m the absence of ind	icators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>1</sup>	Texture	Rema	arks
0-10	10YR 3/1	90	7.5YR 3/4	10	С	M, PL	Silty clay loam		
10-12	10YR 4/1	30	7.5YR 3/4	5	С	M, PL	Silty clay loam		
10-12	10YR 4/2	65	-		<u> </u>		Silty clay loam		
<sup>1</sup> Type: C=Co	oncentration, D=De	epletion, R	M=Reduced Matrix.	<sup>2</sup> Loca	ation: PL=I	Pore Linin	g, RC=Root Channel,	M=Matrix	<b>a</b> 3
Hyaric Soli Histosol	(A1)	icable to a	Sandy Redox (St	erwise no 5)	otea.)		Indicators for Prot	blematic Hydri	c Soils":
	oipedon (A2)		Stripped Matrix (	S6)			$\square$ 1cm Muck (A9)		
Black Hi	istic (A3)		Loamy Mucky Mi	neral (F1	)		Reduced Vertic	(F18)	
Hydroge	en Sulfide (A4)		Loamy Gleyed M	latrix (F2)			Red Parent Mat	terial (TF2)	
Stratified	d Layers (A5)(LRR	(C)	Depleted Matrix (	(F3)			Other (explain in	n remarks)	
🔲 1cm Mu	ck (A9)(LRR D)		Redox Dark Surf	ace (F6)				,	
Deplete	d Below Dark Surf	ace (A11)	Depleted Dark S	urface (F7	7)				
Thick Date	ark Surface (A12)		Redox Depression	ons (F8)					
Sandy N	/lucky Mineral (S1)	)	Vernal Pools (F9	)			<sup>3</sup> Indicators of hydr	ric vegetation a	nd
Sandy G	Bleyed Matrix (S4)						wetland hydrology	must be prese	ent.
Restrictive	Layer (if present)	:							
Туре:									
Depth (inc	hes):						Hydric So	il Present ?	🛛 Yes 🗌 No
Remarks: <sub>SF</sub>	P03 meets the Dep	pleted Matri	ix (F3), Redox Dark S	Surface (F	6), and Re	edox Depr	essions (F8) hydric soi	il indicators.	
	0)/								
TUROLO	GY								

Wetland Hydrology Indicators:	0	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is suffici         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)	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in PLowed S Other (Explain in Remarks)	Water Marks (B1)(Riverine)         Sediment Deposits (B2)(Riverine)         Drift Deposits (B3)(Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Thin Muck Surface (C7)         Crayfish Burrows (C8)         Saturation Visible on Aerial Imagery (C9)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
Field Observations: Surface water present? ☐ Yes X No	Depth (inches):	
Water table present?  Yes  No	Depth (inches):	
Saturation Present?  Yes X No (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present ? 🛛 Yes 🔲 No
Describe recorded data (stream guage, monite Google Earth 03/2017.	oring well, aerial photos, etc.) if available	
Remarks: SP03 meets the Inundation Visible o	on Aerial Imagery (B7) hydric soil indicate	pr.

Project/Site AT Dublin Development Project	City Dublin	County Alameda	Sampling Date 2/22/2018
Applicant/Owner Shea Homes		State CA	Sampling Point SP04
Investigator(s) Scott Batiuk, Nathaniel Clark		Section,Township,Range <u>T3S, R1E</u>	
Landform (hillslope, terrace, etc.)Terrace	Local Relief (c	concave, convex, none) <u>None</u>	Slope(%) 0
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.703029</u>	Long: <u>-121.869229</u>	Datum: WGS 84
Soil Map Unit Name <u>Clear Lake clay, drained, 0 to</u>	2 percent slopes, MLRA	14 NWI classification	on None
Are climatic/hydrologic conditions on-site typical for	this time of year? 🛛 Ye	es 🔲 No 🛛 (If no, explain in rema	rks)
Are any of the following significantly disturbed?	□ Vegetation □ Soil	Hydrology Are "Normal Circums	tances" present? 🛛 Yes 🔲 No
Are any of the following naturally problematic?	□ Vegetation □ Soil	Hydrology (If needed, explain	any answers in remarks)
SUMMARY OF FINDINGS - Attach site map	showing sample poir	<u>nt locations, transects, importan</u>	t features, etc.
Hydrophytic Vegetation Present?YesHydric Soil Present?YesWetland Hydrology Present?Yes	No No No	Is the Sampled Area Sampled Area Y within a Wetland?	es 🖾 No
Remarks: SP04 is located on the edge of a large s for hydrophytic vegetation, hydric soils,	seasonal wetland in the so and wetland hydrology. S	outheast corner of the Project Area. SF P04 is paired with wetland sample poir	204 does not meet wetland criteria ht SP03.

TRFF STRATUM Plot Size: N/A	Absolute	Dominant	Indicator	Dominance Test Worksheet
I	_ % cover	Species?	Status	Number of Dominant Species (A) that are OBL, FACW, or FAC?
				Total number of dominant (B) (B)
Tree Stratum Total Cover:				% of dominant species that50(A/B are OBL, FACW, or FAC?
SAPI ING/SHRUB STRATUM Plot Size:	N/A	-		Prevalence Index Worksheet
	14/7 (	-		Total % cover of: Multiply by:
·		·		OBL species x1
·		·		FACW species x2
·		·		FAC species x3
Sapling/Shrub Stratum Total Cover		·		FACU species x4
		-		UPL species x5
IERB STRATUM Plot Size: 5' radius				Column Totals (A) (B
Brassica nigra	35	Y	NL	
. Festuca perennis	20	Y	FAC	Prevalence Index = B/A =
. Avena barbata	15	<u> </u>	NL	Hydrophytic Vegetation Indicators
Medicago polymorpha	5	<u> </u>	FACU	Dominance Test is >50%
Lamium amplexicaule	1	<u> </u>	NL	$\square$ Prevalence Index is = 3.0<sup 1
/		·		Morphological adaptations (provide supporting data in remarks)
Herb Stratum Total Cover	76			Problematic hydrophytic vegetation ' (explain)
<u>NOODY VINE STRATUM</u> Plot Size:	N/A	-		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
···		·		·
Woody Vines Total Cover:		·		Hydrophytic □ Ves ⊠ No
% Bare ground in herb stratum 24	% cover of	biotic crust 0		Vegetation Present ?

SOIL
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Profile description: (Describe to the depth needed to document the indicator or confirm Depth Matrix Redox Features							m the absence of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>1</sup>	Texture Remarks	_	
0-10	10YR 3/2	98	7.5YR 3/4	2	С	Μ	Silty clay loam	_	
				·				-	
				·				_	
								_	
								-	
								_	
<sup>1</sup> Type: C=Co	ncentration, D=De	epletion, RM	Reduced Matrix.	<sup>2</sup> Loca	tion: PL=F	Pore Lining	g, RC=Root Channel, M=Matrix		
Hydric Soil I	ndicators: (Appli	icable to all	LRRs, unless othe	rwise not	ted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :		
	(A1)	l	Sandy Redox (S5	5)			1cm Muck (A9) (LRR C)		
	ipedon (A2)	l	Stripped Matrix (S	56) 			2cm Muck (A10)(LRR B)		
	STIC (A3)	L		neral (F1)			Reduced Vertic (F18)		
	1 Suilide (A4)			a(r)x(r2)			Red Parent Material (TF2)		
		. C) L	Depleted Matrix (     Depleted Matrix (	F3) 200 (E6)			☐ Other (explain in remarks)		
	Rolow Dark Surf			urfaco (E7	<b>`</b>				
	rk Surface (A12)		Beday Depressio	ne (E8)	)				
Sandy M	ucky Mineral (S1)		Vernal Pools (F9)				<sup>3</sup> Indicators of hydric vagatation and		
Sandy G	leved Matrix (S4)						wetland hydrology must be present		
Bostrictivo I	aver (if present)							-	
	ayer (il present)	•							
			_						
Depth (inch	les):		_				Hydric Soil Present ? 🛛 Yes 🛛 No		
Remarks: SP	04 does not meet	hvdric soil i	ndicators				•		

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is suffici		Water Merke (B1)(Biverine)	
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	<ul> <li>Water Marks (BT)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>	
Field Observations:			
Surface water present?  Yes X No	Depth (inches):		
Water table present?	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland H	lydrology Present ? 🛛 Yes 🛛 No
Describe recorded data (stream guage, monite	oring well, aerial photos, etc.) if available	).	
Remarks: SP04 does not meet wetland hydrol	ogy indicators.		

Project/Site AT Dublin Development Project	City Dublin	County <u>Alameda</u>	Sampling Date 2/22/2018
Applicant/Owner <u>Shea Homes</u>		State CA	Sampling Point <b>SP05</b>
Investigator(s) Scott Batiuk, Nathaniel Clark		Section,Township,Range <u>T35</u>	۶, R1E
Landform (hillslope, terrace, etc.) <u>Terrace</u>	Local Re	lief (concave, convex, none) <u>None</u>	Slope(%) <u>1-2</u>
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.705931</u>	Long: -121.868794	Datum: WGS 84
Soil Map Unit Name <u>Clear Lake clay, drain</u>	ed, 0 to 2 percent slopes, MI	_RA 14 NWI clas	sification None
Are climatic/hydrologic conditions on-site typ	bical for this time of year?	🛛 Yes 🔲 No 🛛 (If no, explain i	n remarks)
Are any of the following significantly disturbe	ed? □ Vegetation □ S	oil 🔲 Hydrology 🛛 Are "Normal C	Sircumstances" present? 🛛 Yes 🔲 No
Are any of the following naturally problemati	c?	oil 🛛 Hydrology (If needed,	explain any answers in remarks)
SUMMARY OF FINDINGS - Attach sit	e map showing sample	point locations, transects, imp	portant features, etc.
Hydrophytic Vegetation Present?	es ☐ No es ⊠ No es ⊠ No	Is the Sampled Area within a Wetland?	□ Yes ⊠ No
Remarks: SP05 is located in the low south imagery, but does not meet wet	east corner of the area north and criteria for wetland hydro	of Brannigan Street in the Project A blogy and hydric soils.	rea. This area appears darker on aerial

VEGETATION (use scientific names)				
TREE STRATUM Plot Size: N/A	Absolute	Dominant	Indicator	Dominance Test Worksheet
1	% cover	Species?	Status	Number of Dominant Species (A) that are OBL, FACW, or FAC?
2. 3.		·		Total number of dominant(B)(B)
4 Tree Stratum Total Cover:		<u> </u>		% of dominant species that are OBL, FACW, or FAC?
SADI ING/SHRUB STRATUM Plot Size	N/A	-		Prevalence Index Worksheet
	11/7	-		Total % cover of: Multiply by:
2				OBL species x1
2				FACW species x2
				FAC species x3
4				FACU species x4
Saping/Shrub Stratum Total Cover:		-		UPL species x5
HERB STRATUM Plot Size: 5' radius				Column Totals (A) (B)
1. Hordeum marinum	40	Y	FAC	
2. Brassica nigra	5	<u>N</u>	NL	Prevalence Index = B/A =
3. Festuca perennis	5	<u>N</u>	FAC	Hydrophytic Vegetation Indicators
4. Cynodon dactylon	2	<u>N</u>	FACU	Dominance Test is >50%
5				$\square$ Prevalence Index is = 3.0<sup 1
6				
7				supporting data in remarks)
8				Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover:	52	-		
WOODY VINE STRATUM Plot Size:	N/A			<sup>1</sup> Indicators of hydric soil and wetland hydrology
1				must be present, unless disturbed or problematic.
2.				
Woody Vines Total Cover:		_		Hydrophytic National Nationa
% Bare ground in herb stratum 48	% cover of biotic crust 0			Vegetation Present ?
Remarks: SP05 meets the Dominance Test hydro	ophytic vegetati	on indicator.		

SOIL
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Profile descu	iption: (Describe Matrix	to the dep	oth needed to docun Redo	nent the i	ndicator	or confiri	m the absence of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>1</sup>	Texture Remarks		
0-16	<u>10YR 3/1</u>	100	7.5YR 4/6	<1	C	M	Silty clay loam		
				·					
<sup>1</sup> Type: C=Co	ncentration, D=De	pletion, RN	1=Reduced Matrix.	<sup>2</sup> Loca	tion: PL=	Pore Linin	g, RC=Root Channel, M=Matrix		
Hydric Soil I	ndicators: (Appli	cable to al	I LRRs, unless othe	rwise not	ed.)		Indicators for Problematic Hydric Soils <sup>*</sup> :		
Histosof	ipedon (A2)		Stripped Matrix (S	56)			$\square$ TCM MUCK (A9) (LRR C) $\square$ 2cm Muck (A10)(LRR B)		
Black His	stic (A3)		Loamy Mucky Min	neral (F1)			Reduced Vertic (F18)		
Hydroge	n Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)			Red Parent Material (TF2)		
	Layers (A5)(LRR	C)	Depleted Matrix (	F3)			☐ Other (explain in remarks)		
Depleted	R (A9)(LKK D) Below Dark Surfa rk Surface (A12)	ace (A11)	Redox Dark Suna     Depleted Dark Su     Redox Depressio	irface (F6) Irface (F7) ns (F8)	)				
Sandy M	ucky Mineral (S1)		Vernal Pools (F9)				<sup>3</sup> Indicators of hydric vegetation and		
Sandy G	leyed Matrix (S4)		_ ( )				wetland hydrology must be present.		
Restrictive I	_ayer (if present)	1							
Туре:			_						
Depth (inch	ies):		_				Hydric Soil Present ? 🛛 Yes 🛛 No		
Remarks: <sub>SP</sub>	05 does not meet	hydric soil	indicators.						

Wetland Hydrology Indicators:		Secondary Indicators (2 or more require	d)
Primary Indicators (any one indicator is suffici			
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	<ul> <li>Water Marks (B1)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Soils (C6)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>	(C9)
Field Observations:			
Surface water present? 🔲 Yes 🛛 No	Depth (inches):		
Water table present?	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland Hydrology Present ? 🛛 Yes 🛛 No	
Describe recorded data (stream guage, monit	oring well, aerial photos, etc.) if available	e.	
Remarks: SP05 does not meet wetland hydrol	ogy indicators.		

Project/Site AT Dublin Development Project	City Dublin	County <u>Alameda</u>	Sampling Date <u>2/22/2018</u>
Applicant/Owner <u>Shea Homes</u>		State CA	Sampling Point SP06
Investigator(s) Scott Batiuk, Nathaniel Clar	K	Section,Township,Range <u>T2S,</u>	R1E
Landform (hillslope, terrace, etc.) <u>Hillslope</u>	Local Reli	ef (concave, convex, none) <u>Concave</u>	eSlope(%) <u>1-2</u>
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.712820</u>	Long: <u>-121.870207</u>	Datum: WGS 84
Soil Map Unit Name Linne clay loam, 3 to	15 percent slopes	NWI class	fication None
Are climatic/hydrologic conditions on-site ty	pical for this time of year?	Yes 🛛 No 🦳 (If no, explain in	remarks)
Are any of the following significantly disturb	ed? 🛛 Vegetation 🔲 So	oil 🔲 Hydrology 🛛 Are "Normal Cir	cumstances" present? 🛛 Yes 🔲 No
Are any of the following naturally problemat	ic?  □ Vegetation □ So	bil 🔲 Hydrology (If needed, ex	xplain any answers in remarks)
SUMMARY OF FINDINGS - Attach si	te map showing sample	point locations, transects, imp	ortant features, etc.
Hydrophytic Vegetation Present?       Image: Comparison of the sector of t	Yes □ No Yes □ No Yes □ No	Is the Sampled Area within a Wetland?	⊠Yes □No
Remarks: SP06 is located in a closed, sm Gleason Drive. SP06 meets w	all seasonally ponded depress etland criteria for hydrophytic	sion at the base of a slope and road e vegetation, hydric soils, and wetland l	embankment along the north side of hydrology. The boundary was based on a

shift to upland vegetation and the absence of wetland hydrology SP06 is paired with upland sample point SP07.

VEGETATION (use scientific names)				
TREE STRATUM Plot Size: N/A	Absolute	Dominant	Indicator	Dominance Test Worksheet
1		Species?	Status	Number of Dominant Species (A) that are OBL, FACW, or FAC?
2 3		·		Total number of dominant1(B)
4 Tree Stratum Total Cover:				% of dominant species that100(A/B) are OBL, FACW, or FAC?
	Ν/Δ	-		Prevalence Index Worksheet
SAPLING/SHRUB STRATUM FILL SIZE.		-		Total % cover of: Multiply by:
1				OBL species x1
2		·		FACW species x2
3		·		FAC species x3
Sapling/Shrub Stratum Tatal Covery				FACU species x4
		-		UPL species x5
HERB STRATUM Plot Size: 5' radius				Column Totals (A) (B)
1. Festuca perennis	10	<u> </u>	FAC	
2. Lythrum hyssopifolia	1	<u> </u>	OBL	Prevalence index = B/A =
<sup>3.</sup>		·		Hydrophytic Vegetation Indicators
4		·		Dominance Test is >50%
5		·		Prevalence Index is $$
6 7				Morphological adaptations (provide
8				$\square$ Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover:	11	_		
WOODY VINE STRATUM Plot Size:	N/A			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.				
Woody Vines Total Cover:		-		Hydrophytic Vegetation Present ?
% Bare ground in herb stratum <u>39</u>	% cover of	biotic crust 50		
Remarks: SP06 meets the Dominance Test hydrobeen treated with herbicide. Vegetation	ophytic vegetati n is mostly see	on indicator. Wet dlings and thus hi	land vegetatic gher cover is e	n is in a strip along the fence that appears to have expected later into the growing season.

SOIL
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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 <sup>1</sup>	Loc1	Texture Remarks
0-16	10YR 3/1	98	7.5YR 3/4	2	C	_ <u>PL</u>	Silty clay loam
<sup>1</sup> Type: C=Co	ncentration, D=De	epletion, RM	=Reduced Matrix.	<sup>2</sup> Loca	tion: PL=F	Pore Linin	ng, RC=Root Channel, M=Matrix
Histosol Histosol Black His Hydroger Stratified 1cm Muc Depleted Thick Da	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5)(LRR k (A9)(LRR D) Below Dark Surfa rk Surface (A12)	C) [ ace (A11) [	Sandy Redox (S Stripped Matrix ( Loamy Mucky Mi Loamy Gleyed M Depleted Matrix ( Redox Dark Surf Depleted Dark S Redox Depressio	5) S6) neral (F1) atrix (F2) (F3) ace (F6) urface (F7) ons (F8)	·)		Indicators for Problematic Hydric Solis : 1cm Muck (A9) (LRR C) 2cm Muck (A10)(LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (explain in remarks)
☐ Sandy M ☐ Sandy G	ucky Mineral (S1) leyed Matrix (S4)		Vernal Pools (F9	)			<sup>3</sup> Indicators of hydric vegetation and wetland hydrology must be present.
Restrictive L	ayer (if present)	:					
Туре:			_				
Depth (inch	les):		_				Hydric Soil Present ? 🛛 Yes 🗌 No
Remarks: <sub>SP</sub>	06 meets the Rec	lox Dark Sur	face (F6) hydric soi	l indicator.			

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)				
Primary Indicators (any one indicator is sufficient							
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	<ul> <li>Water Marks (B1)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>					
Field Observations:							
Water table present?	Depth (inches):						
Saturation Present? Yes No (includes capillary fringe)	Depth (inches):	Wetland I	Hydrology Present ? 🛛 Yes 🗌 No				
Describe recorded data (stream guage, monit	oring well, aerial photos, etc.) if available						
Remarks: SP06 meets the Biotic Crust (B12) hydric soil indicator.							

Project/Site AT Dublin Development Proj	ect City Dublin	County <u>Alameda</u>	Sampling Date <u>2/22/2018</u>		
Applicant/Owner <u>Shea Homes</u>		State CA	Sampling Point SP07		
Investigator(s) Scott Batiuk, Nathaniel C	lark	Section,Township,Range	1E		
Landform (hillslope, terrace, etc.) <u>Hill swa</u>	ale Local Rel	elief (concave, convex, none) <u>Concave</u> Slope(%			
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.712866</u>	Long: -121.870200	Datum: WGS 84		
Soil Map Unit Name Linne clay loam, 3	to 15 percent slopes	NWI classific	cation None		
Are climatic/hydrologic conditions on-site	e typical for this time of year?	🛛 Yes 🔲 No 🛛 (If no, explain in re	emarks)		
Are any of the following significantly dist	urbed?	oil 🔲 Hydrology 🛛 Are "Normal Circu	ımstances" present? 🛛 Yes 🔲 No		
Are any of the following naturally problem	natic?	oil 🔲 Hydrology (If needed, exp	lain any answers in remarks)		
SUMMARY OF FINDINGS - Attach	site map showing sample	point locations, transects, impor	tant features, etc.		
Hydrophytic Vegetation Present?       Image: Comparison of the sent?         Hydric Soil Present?       Image: Comparison of the sent?         Wetland Hydrology Present?       Image: Comparison of the sent?	]Yes ⊠ No ]Yes ⊠ No ]Yes ⊠ No	Is the Sampled Area	]Yes 🛛 No		
Remarks: SP07 is located in an upland criteria for hydrophytic veget	area in adjacent to a small depr ation, hydric soils, and wetland h	ession in the northern region of the Pro ydrology. SP07 is paired with wetland	ject Area. SP07 does not meet wetland sample point SP06.		

TREE STRATUM Plot Size N/A	Absolute	Dominant	Indicator	Dominance Test Worksheet
1	- % cover	Species?	Status	Number of Dominant Species (A) that are OBL, FACW, or FAC?
2 3				Total number of dominant (B) (B)
4 Tree Stratum Total Cover: _				% of dominant species that
- SADUNG/SHRUB STRATUM Plot Size:	N/A	-		Prevalence Index Worksheet
		-		Total % cover of: Multiply by:
· 2				OBL species x1
3		·		
4				FAC species X3
Sapling/Shrub Stratum Total Cover:				UPL species x5
HERD STRATUM Plot Size: 5 radius	20	V	EAC	Column Totals (A) (B)
2 Avena harbata	20	·		Prevalence Index = B/A =
Brassica nigra	7	N	NI	Hudronkutia Vagatatian Indiastara
- Geranium sp	5	N	NI	
Helminthotheca echioides	2	N	FAC	Dominance Test is >50%
	_			Prevalence Index is $$
7				Morphological adaptations (provide supporting data in remarks)
B		·		Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover:	64	-		
WOODY VINE STRATUM Plot Size:1	N/A			must be present, unless disturbed or problematic.
1		·		• ·
		·		-
Woody Vines Total Cover:		-		Hydrophytic Uses Vegetation Present 2 Vegetation No
% Bare ground in herb stratum 36	% cover of	biotic crust 0		Vegetation Fresent ?

SOIL	
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Profile descr	iption: (Describe Matrix	e to the dep	th needed to docur Rede	nent the i	ndicator es	or confirr	m the absence of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc1	Texture Remarks		
0-12	10YR 3/1	99	7.5YR 3/4	1	С	Μ	Clay loam		
'Type: C=Co	ncentration, D=De	epletion, RM	=Reduced Matrix.	Loca	tion: PL=F	Pore Lining	g, RC=Root Channel, M=Matrix		
Hydric Soil I	ndicators: (Appli	icable to all	LRRS, unless othe	rwise not	ied.)		Indicators for Problematic Hydric Soils':		
	inedon (A2)		Stripped Matrix (St	2) 36)			1 1cm Muck (A9) (LRR C)		
Black His	stic (A3)		Loamv Muckv Mi	neral (F1)			ZCM Muck (ATU)(LRR B)     Reduced Vertic (E18)		
Hydrogei	n Sulfide (A4)		Loamy Gleyed M	atrix (F2)			Red Parent Material (TF2)		
Stratified	Layers (A5)(LRR	C)	Depleted Matrix (	F3) `́			Other (explain in remarks)		
🔲 1cm Muc	k (A9)(LRR D)		Redox Dark Surfa	ace (F6)			<b>—</b> • • • • • • • • • • • • • • • • • • •		
Depleted	Below Dark Surfa	ace (A11)	Depleted Dark Su	urface (F7	)				
Thick Da	rk Surface (A12)		Redox Depressio	ns (F8)			2		
Sandy M	ucky Mineral (S1)		Vernal Pools (F9)	)			<sup>3</sup> Indicators of hydric vegetation and		
G Sandy G	leyed Matrix (S4)						wetland hydrology must be present.		
Restrictive L	ayer (if present)	:							
Туре:			_						
Depth (inch	ies):		_				Hydric Soil Present ? 🛛 Yes 🛛 No	,	
Remarks: <sub>SP</sub>	07 does not meet	hydric soil i	ndicators.						
		,							

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is suffici	ent)		Water Merke (B1)(Biverine)
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living Roots (C3)</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed Soils (C6)</li> <li>Other (Explain in Remarks)</li> </ul>		<ul> <li>Water Marks (BT)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Field Observations:			
Surface water present?  Yes X No	Depth (inches):		
Water table present?	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland H	lydrology Present ? 🛛 Yes 🛛 No
Describe recorded data (stream guage, monite	oring well, aerial photos, etc.) if available		
Remarks: SP07 does not meet wetland hydrol	ogy indicators.		

Project/Site AT Dublin Development Pro	ject City Dublin	County Alameda	Sampling Date 2/22/2018			
Applicant/Owner Shea Homes		State CA	Sampling Point SP08			
Investigator(s) Scott Batiuk, Nathaniel C	Clark	Section,Township,Range T2S	5, R1E			
Landform (hillslope, terrace, etc.) Hill sw	ale Loca	I Relief (concave, convex, none) <u>Convex</u>	Slope(%) <u>1</u>			
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.712</u>	2368 Long: <u>-121.870430</u>	Datum: WGS 84			
Soil Map Unit Name <u>Clear Lake clay, c</u>	lrained, 3 to 7 percent slope	s NWI class	sification None			
Are climatic/hydrologic conditions on-sit	Are climatic/hydrologic conditions on-site typical for this time of year? 🛛 Yes 🔲 No 🛛 (If no, explain in remarks)					
Are any of the following significantly dist	urbed? Degetation	Soil 🔲 Hydrology 🛛 Are "Normal Ci	ircumstances" present? 🛛 Yes 🔲 No			
Are any of the following naturally proble	matic? Degetation	Soil Hydrology (If needed, e	explain any answers in remarks)			
SUMMARY OF FINDINGS - Attach	site map showing sam	pple point locations, transects, imp	portant features, etc.			
Hydrophytic Vegetation Present?         Hydric Soil Present?         Wetland Hydrology Present?	⊠Yes □No ]Yes ⊠No ]Yes ⊠No	Is the Sampled Area within a Wetland?	□ Yes ⊠ No			
Remarks: SP08 is located in a shallow	swale in the northern region	n of the Project Area. SP08 is located wit	hin an area that has darker signature on			

aerial photographs (Google Earth 3/11/2017), but does not meet wetland criteria for hydrophytic vegetation, hydric soils, and wetland hydrology. SP08 is not paired with any other sample point.

	Absolute	Dominant	Indicator	
TREE STRATUM Plot Size: N/A	% cover	Dominant Species?	Status	Dominance Test Worksheet
1		- <u> </u>		Number of Dominant Species         1         (A)           that are OBL, FACW, or FAC?
2		· ·		Total number of dominant3(B)
4 Tree Stratum Total Cover:				% of dominant species that33(A/B) are OBL, FACW, or FAC?
	N/A	-		Prevalence Index Worksheet
<u> SAPLING/SHRUB STRATUM</u> Plot Size:	N/A	-		Total % cover of: Multiply by:
1				OBL species x1
2				FACW species x2
3		·		FAC species x3
4				FACU species x4
Sapling/Shrub Stratum Total Cover:		-		UPL species x5
HERB STRATUM Plot Size: 5' radius				
1. Festuca perennis	20	Y	FAC	
2. Avena barbata	20	Y	NL	Prevalence Index = B/A =
3. Bromus cf hordeaceus	10	Y	FACU	Hydrophytic Vegetation Indicators
4				$\square$ Dominance Test is >50%
5				$\square$ Prevalence Index is = 3.0<sup 1
6				
7				supporting data in remarks)
8				Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover:	50	-		
WOODY VINE STRATUM Plot Size:	N/A			<sup>1</sup> Indicators of hydric soil and wetland hydrology
1.				must be present, unless disturbed or problematic.
2.				
Woody Vines Total Cover:		-		Hydrophytic Dives M No
% Bare ground in herb stratum 50	% cover of	biotic crust 0		Vegetation Present ?
Remarks: SP08 does not meet hydrophytic veget	tation indicators			•
		-		

SOIL								Sampling Po	oint <u>SP08</u>	
Profile desc	ription: (Describe	e to the de	epth needed to docur	nent the i	ndicator	or confirm	n the absence of indi	cators.)		
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>1</sup>	Texture	Rema	arks	
0-4	10YR 3/1	100			-		Silty clay loam			
4-14	10YR 3/1	80			-	-	Silty clay loam	Silty clay loam		
4-14	2.5Y 5/3	20	<u> </u>		-	-	Silty clay loam			
			 M=Reduced Matrix	<sup>2</sup> 1 oca	tion: PI -E			M-Matrix		
Hvdric Soil	Indicators: (Appl	icable to a	all LRRs. unless othe	rwise not	ted.)		Indicators for Prob	lematic Hvdr	ric Soils <sup>3</sup> .	
Histosol	(A1)		Sandy Redox (S5	5)	,		1 cm Muck (A9) (	(LRR C)		
Histic Ep	oipedon (A2)		Stripped Matrix (S	56)			2cm Muck (A10)(LRR B)			
Black Hi	stic (A3)		Loamy Mucky Min	neral (F1)			Reduced Vertic (F18)			
Hydroge	n Sulfide (A4)		Doploted Matrix (	atrix (F2)			Red Parent Material (TF2)			
	r Layers (AS)(LINN ck (A9)(LRR D)	. ()	Redox Dark Surfa	ace (F6)			Other (explain in	n remarks)		
	Below Dark Surf	ace (A11)	Depleted Dark Su	urface (F7	)					
Thick Da	ark Surface (A12)	· · · ·	Redox Depressio	ns (F8)	,					
🛛 🔲 Sandy M	lucky Mineral (S1)	)	Vernal Pools (F9)	)			<sup>3</sup> Indicators of hydric vegetation and			
Sandy G	ileyed Matrix (S4)						wetland hydrology	must be prese	ent.	
Restrictive	Layer (if present)	:								
Type:										
Depth (incl	nes):						Hydric Soi	il Present ?	□ Yes D	🛛 No
Remarks: SF	08 does not mee	t hydric soi	l indicators.							

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is suffici-	ent)		
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	g Roots (C3) Soils (C6)	<ul> <li>Water Marks (B1)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Field Observations:			
Surface water present?  Yes  No	Depth (inches):		
Water table present?  Yes No	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland H	lydrology Present ? 🛛 Yes 🛛 No
Describe recorded data (stream guage, monito	pring well, aerial photos, etc.) if available		
Remarks: SP08 does not meet wetland hydrolo	ogy indicators.		

Project/Site AT Dublin Development Pro	oject City Dublin	County Alameda	Sampling Date 2/22/2018
Applicant/Owner <u>Shea Homes</u>		State CA	Sampling Point SP09
Investigator(s) Scott Batiuk, Nathaniel	Clark	Section,Township,Range <u>T3S, R</u>	1E
Landform (hillslope, terrace, etc.) Field	Local Re	lief (concave, convex, none) <u>None</u>	Slope(%) <u>0</u>
Subregion(LRR) LRR C (Medit. CA)	Lat: <u>37.708634</u>	Long: <u>-121.869542</u>	Datum: WGS 84
Soil Map Unit Name <u>Clear Lake clay, o</u>	drained, 0 to 2 percent slopes, MI	LRA 14 NWI classific	cation None
Are climatic/hydrologic conditions on-sit	te typical for this time of year?	🛛 Yes 🔲 No 🛛 (If no, explain in re	marks)
Are any of the following significantly dis	sturbed?	oil 🔲 Hydrology 🛛 Are "Normal Circu	ımstances" present? 🛛 Yes 🔲 No
Are any of the following naturally proble	ematic?	oil 🔲 Hydrology (If needed, exp	lain any answers in remarks)
SUMMARY OF FINDINGS - Attacl	<u>h site map showing sample</u>	point locations, transects, impor	tant features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	□ Yes 🛛 No □ Yes 🖾 No □ Yes 🖾 No	Is the Sampled Area	]Yes 🛛 No
Remarks: SP09 is located in a disced hydric soils, and wetland hy	field in the center portion of the F /drology. SP09 is representative	Project Area. SP09 does not meet wetla of upland conditions in the area.	nd criteria for hydrophytic vegetation,

Ass?       Status       Status       Number of Dominant Species       0       (A)         Image: Status       Number of Dominant Species       0       (A)         Image: Status       Total number of dominant species across all strata?       1       (B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species that are OBL, FACW, or FAC?       0       (A/B)         Image: Status       % of dominant species       x1       1       (A/B)         Image: Status       % of cover of:       Multiply by:       1       1         Image: Status       % of cover of:       Multiply by:       1
Initial are OBL, FACW, of FAC?         Total number of dominant species across all strata?         % of dominant species that are OBL, FACW, or FAC? <b>Prevalence Index Worksheet</b> Total % cover of:         Multiply by:         OBL species         FACW species         FACW species         FACU         FACU         FACU
% of dominant species that are OBL, FACW, or FAC?         0         (A/B           Prevalence Index Worksheet
Prevalence Index Worksheet
Total % cover of:         Multiply by:           OBL species         x1           FACW species         x2           FAC species         x3           FACU species         x4           UPL species         x5           Column Totals         (A)
OBL species       x1         FACW species       x2         FAC species       x3         FACU species       x4         UPL species       x5         Column Totals       (A)
FACU species         x4            UPL species         x5            Column Totals         (A)
Column Totals         (A)         (B)
FACU Column Totals (A) (B)
FAC Prevalence Index = B/A =
Hydrophytic Vegetation Indicators
□ Dominance Test is >50%
$\square$ Prevalence Index is $$
Morphological adaptations (provide supporting data in remarks)
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic □ Yes ☑ No

SOIL	
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Profile descu Depth	iption: (Describe Matrix	to the dep	oth needed to docum Redo	nent the i	ndicator	or confir	m the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>1</sup>	Texture Remarks
0-14	10YR 3/1	100	7.5YR 3/4	<1	С	PL	Clay loam
		·		·			
		·					
		-					
		·		·			
		·					
<sup>1</sup> Type: C=Co	ncentration, D=De	pletion, RM	1=Reduced Matrix.	<sup>2</sup> Loca	tion: PL=I	Pore Linin	ng, RC=Root Channel, M=Matrix
Hydric Soil I	ndicators: (Appli	cable to al	I LRRs, unless othe	rwise not	ed.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
	(A1)		Sandy Redox (S5	$\tilde{\mathbf{b}}$			1cm Muck (A9) (LRR C)
I II HISUC EP	(AZ)		Loamy Mucky Mir	oo) heral (E1)			$\square 2 \text{cm Muck (A10)(LRR B)}$
	n Sulfide (A4)		Loamy Gleved Ma	atrix (F2)			Reduced Vertic (F18)     Red Barant Material (TE2)
Stratified	Lavers (A5)(LRR	C)	Depleted Matrix (	F3)			$\square \text{ Other (explain in remarks)}$
1cm Muc	k (A9)(LRR D)	-,	Redox Dark Surfa	ace (F6)			
Depleted	Below Dark Surfa	ace (A11)	Depleted Dark Su	Irface (F7	)		
🛛 🛛 Thick Da	rk Surface (A12)		Redox Depressio	ns (F8)			
🛛 🔲 Sandy M	ucky Mineral (S1)		Vernal Pools (F9)	)			<sup>3</sup> Indicators of hydric vegetation and
Sandy G	leyed Matrix (S4)						wetland hydrology must be present.
Restrictive I	_ayer (if present)	:					
Туре:			_				
Depth (inch	ies):		_				Hydric Soil Present ? 🛛 Yes 🛛 No
Remarks: <sub>SP</sub>	09 does not meet	hvdric soil	indicators.				
		·· <b>·</b>					

Wetland Hydrology Indicators:		Secondary	Indicators (2 or more required)
Primary Indicators (any one indicator is suffici	ent)		
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	Roots (C3) Crayfish bils (C6) FAC-Ne	nt Deposits (B2)(Riverine) posits (B3)(Riverine) posits (B3)(Riverine) e Patterns (B10) ason Water Table (C2) uck Surface (C7) n Burrows (C8) on Visible on Aerial Imagery (C9) Aquitard (D3) putral Test (D5)
Field Observations:			
Surface water present? 🔲 Yes 🛛 No	Depth (inches):		
Water table present?	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland Hydrology F	Present ? 🛛 Yes 🛛 No
Describe recorded data (stream guage, monit	oring well, aerial photos, etc.) if available		
Remarks: SP09 does not meet wetland hydrol	ogy indicators		

Project/Site AT Dublin Development Pr	City Dublin	County Al	lameda		Sampling Date 2/22/2018	
Applicant/Owner <u>Shea Homes</u>				State <u>CA</u>	Sam	pling Point <b>SP10</b>
Investigator(s) Scott Batiuk, Nathaniel	Clark		Section,To	wnship,Range <u>T3S,</u>	R1E	
Landform (hillslope, terrace, etc.) Field		Local Relief (concave, convex, none) None				Slope(%) <u>0</u>
Subregion(LRR) <u>LRR C (Medit. CA)</u>		Lat: <u>37.704945</u>	I	Long: <u>-121.869826</u>		Datum: WGS 84
Soil Map Unit Name Clear Lake clay,	drained, 0 to	2 percent slopes, MI	LRA 14	NWI class	ification <u>No</u>	ne
Are climatic/hydrologic conditions on-s	ite typical for f	this time of year?	🛛 Yes 🛛 No	(If no, explain in	remarks)	
Are any of the following significantly dis	sturbed? [	□ Vegetation □ S	oil 🔲 Hydrolog	y Are "Normal Cir	cumstance	s" present? 🛛 Yes 🔲 No
Are any of the following naturally proble	ematic? [	□ Vegetation □ S	oil 🔲 Hydrolog	y (If needed, e	xplain any a	answers in remarks)
SUMMARY OF FINDINGS - Attac	<u>h site map</u>	showing sample	point location	s, transects, imp	ortant fea	tures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	☐ Yes ⊠ I ☐ Yes ⊠ I ☐ Yes ⊠ I	No No No	ls the San within a W	npled Area /etland?	🗌 Yes	🖾 No
Remarks: SP10 is located in an upland area in a disced field in the southern region of the Project Area. SP10 does not meet wetland criteria for hydrophytic vegetation, hydric soils, and wetland hydrology. SP10 is representative of local upland conditions.						

TREE STRATUM Plot Size: N/A	Absolute	Dominant	Indicator	Dominance Test Worksheet
1	- % cover	Species?	Status	Number of Dominant Species(A) that are OBL, FACW, or FAC?
2 3				Total number of dominant (B) (B)
4 Tree Stratum Total Cover: _				% of dominant species that (A/B ) (A/B ) (A/B ) (A/B ) ) (A/B ) ) (A/B ) ) ) (A/B ) _ ] ) ) ) ) _ ] ) ) ] ) ) ] _ ] ) ) ] ) ) ] ] ) ) ] ] ) ) ] ] ] ]
- SADI ING/SHRUB STRATUM Plot Size:	N/A	-		Prevalence Index Worksheet
	11/7 (	-		Total % cover of: Multiply by:
2				OBL species         x1           FACW species         x2           FAC species         x3
				FACU species x4
Sapling/Shrub Stratum Total Cover:		-		UPL species x5
HERB STRATUM Plot Size: 5' radius				Column Totals (A) (B)
1. Avena barbata	30	Y	NL	
2. Festuca cf myuros	15	Y	FACU	Prevalence Index = B/A =
3. Bromus cf hordeaceus	5	<u> </u>	FACU	Hydrophytic Vegetation Indicators
4. Raphanus sativus	+	<u>N</u>	UPL	□ Dominance Test is >50%
5				Prevalence Index is $$
6		·		<ul> <li>Morphological adaptations (provide supporting data in remarks)</li> </ul>
e	50	·		Problematic hydrophytic vegetation <sup>1</sup> (explain)
WOODY VINE STRATUM Plot Size: 1	N/A	-		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				·
Woody Vines Total Cover:				Hydrophytic I Yes No
% Bare ground in herb stratum 50	% cover of	biotic crust 0		

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Profile desci Depth	ription: (Describe Matrix	to the de	pth needed to	document the in Redox Feature	n <b>dicator c</b> s	or confirm	m the absence of indicators.) -	
(inches)	Color (moist)	%	Color (mo	st) <u>%</u>	Type <sup>1</sup>	_Loc <sup>1</sup>	Texture Remarks	_
0-14	10YR 3/1	100		<u> </u>			Silty clay loam	_
		·	- <u> </u>					-
								_
								-
								-
<sup>1</sup> Type: C=Co	ncentration, D=De	pletion, RI	M=Reduced Ma	trix. <sup>2</sup> Locat	ion: PL=P	ore Lining	ig, RC=Root Channel, M=Matrix	
Hydric Soil I	ndicators: (Appli	cable to a	II LRRs, unles	s otherwise not	əd.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1)		Sandy Red	ox (S5)			1cm Muck (A9) (LRR C)	
Histic Ep	ipedon (A2)		Stripped M	atrix (S6)			2cm Muck (A10)(LRR B)	
	STIC (A3) n Sulfido (A4)			Ky Mineral (F1)			Reduced Vertic (F18)	
		$\sim$		yeu mainx $(FZ)$			Red Parent Material (1F2)	
	:k (A9)(I RR D)	0)	Redox Dar	k Surface (F6)				
	Below Dark Surfa	ice (A11)	Depleted D	ark Surface (F7)				
Thick Da	rk Surface (A12)	· · ·	Redox Dep	ressions (F8)				
🛛 🛛 Sandy M	ucky Mineral (S1)		Vernal Pool	ls (F9)			<sup>3</sup> Indicators of hydric vegetation and	
Sandy G	leyed Matrix (S4)						wetland hydrology must be present.	
Restrictive I	_ayer (if present):							
Туре:								
Depth (inch	nes):						Hydric Soil Present ? 🛛 Yes 🛛 No	
Remarks: <sub>SP</sub>	10 does not meet	hvdric soil	l indicators					

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is suffici	ent)		
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	<ul> <li>Water Marks (B1)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>	
Field Observations:			
Surface water present?   Yes  No	Depth (inches):		
Water table present?	Depth (inches):		
Saturation Present?	Depth (inches):	Wetland I	Hydrology Present ? 🛛 Yes 🛛 No
Describe recorded data (stream guage, monite	oring well, aerial photos, etc.) if available	9.	
Remarks: SP10 does not meet wetland hydrol	ogy indicators.		

Project/Site AT Dublin Development P	City <u>Dublin</u>	County	Alameda		Sampling Date 3/19/2	2018	
Applicant/Owner <u>Shea Homes</u>				State CA		pling Point <u>SP11</u>	
Investigator(s) Scott Batiuk, Nathaniel	Clark		Section,	Township,Range <u>T</u> 3	3S, R1E		
Landform (hillslope, terrace, etc.)Field		Local Relief (concave, convex, none) None				Slope(%)	0-1
Subregion(LRR) LRR C (Medit. CA)		Lat: <u>37.704182</u>		_Long: <u>-121.86972</u>	20	Datum: WGS 84	
Soil Map Unit Name Clear Lake clay,	drained, 0 t	to 2 percent slopes, MI	LRA 14	NWI cla	assification <u>No</u>	ne	
Are climatic/hydrologic conditions on-s	ite typical fc	or this time of year?	🛛 Yes 🛛 No	o (If no, explain	n in remarks)		
Are any of the following significantly di	sturbed?	□ Vegetation □ S	Soil 🔲 Hydrold	ogy Are "Normal	Circumstances	s" present? 🛛 Yes	🗆 No
Are any of the following naturally prob	ematic?	□ Vegetation □ S	Soil 🔲 Hydrold	ogy (If needed	d, explain any a	answers in remarks)	
SUMMARY OF FINDINGS - Attac	<u>:h site ma</u>	p showing sample	point location	ons, transects, in	nportant fea	<u>tures, etc.</u>	
Hydrophytic Vegetation Present?	🛛 Yes 🗌	] No	Is the Sa	ampled Area	M vaa		
Hydric Soil Present?	🛛 Yes 🗌	] No	within a	Wetland?			
Wetland Hydrology Present?	Yes C	] No					
Remarks: SP11 is located in a discer	d field in the	southern region of the	e Project Area, ant salt concen	southwest of the Du	iblin Blvd & Bai	rrington St intersection	n. The

for hydrophytic vegetation, hydric soils, and wetland hydrology. SP11 is paired with upland sample point SP12.

VEGETATION (use scientific names)				
TREE STRATUM Plot Size: N/A	Absolute	Dominant	Indicator	Dominance Test Worksheet
1		Species?		Number of Dominant Species (A) that are OBL, FACW, or FAC?
2 3				Total number of dominant (B) (B)
4 Tree Stratum Total Cover:		·		% of dominant species that(A/B) are OBL, FACW, or FAC?
	NI/A			Prevalence Index Worksheet
SAFLING/SHRUB STRATOM FILT SIZE.	IN/A			Total % cover of: Multiply by:
1.       2.       3.				OBL species x1 FACW species x2
4				FACU species x4
Sapling/Shrub Stratum Total Cover:				UPL species x5
HERB STRATUM Plot Size: 5' radius				
1. Festuca perennis	10	Y	FAC	
2. Lythrum hyssopifolia	1	<u> </u>	OBL	Prevalence Index = B/A =
3. Plagiobothrys stipitatus	1	N	FACW	Hydrophytic Vegetation Indicators
4				Dominance Test is >50%
5				Prevalence Index is $$
6 7				<ul> <li>Morphological adaptations (provide supporting data in remarks)</li> </ul>
8		·		Problematic hydrophytic vegetation <sup>1</sup> (explain)
Herb Stratum Total Cover: WOODY VINE STRATUM Plot Size:	12 N/A			<sup>1</sup> Indicators of hydric soil and wetland hydrology
1				must be present, unless disturbed or problematic.
2.				
Woody Vines Total Cover:				Hydrophytic Ves INo
% Bare ground in herb stratum <u>88</u>	% cover of	biotic crust 0		vegeration riesent :
Remarks: SP11 meets the Dominance Test hydro	ophytic vegetati	on indicator.		

SOIL	
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Profile desci Depth	iption: (Describe Matrix	to the dep	th needed to docum Redo	ent the i	ndicator	or confirr	m the absence of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>1</sup>	Texture Remarks	_
0-12	10YR 3/1	97	7.5YR 3/4	3	С	M	_ clay	
		·						-
								_
								_
		·				-		—
								_
<sup>1</sup> Type: C=Co	ncentration, D=De	pletion, RM	=Reduced Matrix.	<sup>2</sup> Loca	tion: PL=F	Pore Lining	ng, RC=Root Channel, M=Matrix	
Hydric Soil I	ndicators: (Appli	cable to all	LRRs, unless other	wise not	ed.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
	(A1) inadan (A2)	L	Sandy Redox (S5	) C)			1cm Muck (A9) (LRR C)	
Black His	stic (A3)	ſ	Loamy Mucky Min	o) eral (F1)			☐ 2cm Muck (A10)(LRR B)	
	n Sulfide (A4)	ĺ	Loamy Gleyed Ma	trix (F2)			Reduced Venic (F18)	
Stratified	Layers (A5)(LRR	C) [	Depleted Matrix (F	3)			Other (explain in remarks)	
1cm Muc	k (A9)(LRR D)		Redox Dark Surfa	ce (F6)				
	Below Dark Surfa	ace (A11)	Depleted Dark Su	rface (F7	)			
□ □ Thick Da	rk Suriace (A12) ucky Mineral (S1)	L T	Vernal Pools (E9)	IS (F8)			<sup>3</sup> Indiantors of hydric vogstation and	
Sandy G	leved Matrix (S4)	L					wetland hydrology must be present	
Restrictive I	aver (if present)	:						
Type:	<b>,</b> ,							
Depth (incl	les):							
			_				Hydric Soil Present ? 🖄 Yes 🗋 No	
Remarks: <sub>Th</sub>	e sample point me	ets the Red	ox Dark Surface (F6)	hydric so	oil indicate	or.		

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
⊠ Surface Water (A1)       ⊠ Salt C         ⊠ High Water Table (A2)       □ Biotic         ⊠ Saturation (A3)       □ Aquat         □ Water Marks (B1)(Nonriverine)       □ Hydro         □ Sediment Deposits (B2)(Nonriverine)       □ Oxidiz         □ Drift Deposits (B3)(Nonriverine)       □ Prese         ⊠ Surface Soil Cracks (B6)       □ Recel         □ Inundation Visible on Aerial Imagery (B7)       □ Other         □ Water-Stained Leaves (B9)       □	Water Marks (B1)(Riverine)         rust (B11)       Sediment Deposits (B2)(Riverine)         Crust (B12)       Drift Deposits (B3)(Riverine)         ic Invertebrates (B13)       Drainage Patterns (B10)         gen Sulfide Odor (C1)       Dry-Season Water Table (C2)         ed Rhizospheres along Living Roots (C3)       Thin Muck Surface (C7)         ic Iron Reduction in PLowed Soils (C6)       Saturation Visible on Aerial Imagery (C9)         (Explain in Remarks)       Shallow Aquitard (D3)         FAC-Neutral Test (D5)
Field Observations:	
Surface water present? X Yes L No Depth (ir	ches): <u>0-2</u>
Water table present? 🛛 🛛 Yes 🗖 No 🛛 Depth (ir	ches): <u>7</u>
Saturation Present? X Yes I No Depth (ir (includes capillary fringe)	ches): 0-12 Wetland Hydrology Present ? 🛛 Yes 🗆 No
Describe recorded data (stream guage, monitoring well,	aerial photos, etc.) if available.
Remarks: SP11 meets the Surface Water (A1), High Wat hydrology indicators.	er Table (A2), Saturation (A3), Surface Soil Cracks (B6), and Salt Crust (B11) wetland

Project/Site AT Dublin Development Pro	City Dublin	County	Alameda		Sampling Date 3/19/2	2018		
Applicant/Owner Shea Homes				State CA	San	npling Point <u>SP12</u>		
Investigator(s) Scott Batiuk, Nathaniel C	Clark		Section,1	ownship,Range	T3S, R1E			
Landform (hillslope, terrace, etc.) Field		Local Relief (concave, convex, none) None			ne	Slope(%)	0	
Subregion(LRR) LRR C (Medit. CA)		Lat: <u>37.704182</u>		Long: <u>-121.869</u>	720	Datum: WGS 84		
Soil Map Unit Name Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14 NWI classification None								
Are climatic/hydrologic conditions on-site	e typical fo	or this time of year?	🛛 Yes 🛛 No	(If no, expla	ain in remarks)			
Are any of the following significantly dist	urbed?	□ Vegetation □ S	Soil 🔲 Hydrold	ogy Are "Norma	al Circumstance	es" present? 🛛 Yes	🗆 No	
Are any of the following naturally proble	matic?	□ Vegetation □ S	Soil 🛛 Hydrold	ogy (If neede	ed, explain any	answers in remarks)		
SUMMARY OF FINDINGS - Attach	<u>site map</u>	<u>p showing sample</u>	point locatio	ons, transects,	important fea	atures, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	□Yes 🛛 □Yes 🖾 ☑Yes □	3 No 3 No 3 No	ls the Sa within a	mpled Area Wetland?	☐ Yes	🛛 No		
Remarks: SP12 is located in a disced	field in the	southern region of the	e Project Area, s	southwest of the D	Dublin Blvd & Ba	arrington St intersectio	n. It is	

adjacent to an area of sparsely vegetated, whitish clay with abundant salt concentrations. SP12 meets wetland criteria for wetland hydrology but does not meet hydrophytic vegetation or hydric soil indicators. SP12 is paired with wetland sample point SP11.

VEGETATION	(use scientific names)	)

TREE STRATUM Plot Size: N/A	Absolute	Dominant	Indicator Status	Dominance Test Worksheet		
1		Species?		Number of Dominant Species (A) that are OBL, FACW, or FAC?		
2				Total number of dominant (B) (B)		
4 Tree Stratum Total Cover:				% of dominant species that		
		-		Prevalence Index Worksheet		
<u> SAPLING/SHRUBSTRATUM</u> Plot Size:	N/A	-		Total % cover of: Multiply by:		
1 2				OBL species         x1           FACW species         x2		
3		·		FAC species x3		
4				FACU species x4		
Sapling/Shrub Stratum Total Cover:		-		UPL species x5		
HERB STRATUM Plot Size: 5' radius				Column Totals (A) (B)		
1. Festuca perennis	40	Y	FAC			
2. Avena barbata	20	Y	NL	Prevalence Index = B/A =		
3. Bromus diandrus	5	<u>N</u>	NL	Hydrophytic Vegetation Indicators		
4. Bromus hordeaceus	5	<u>N</u>	FACU	□ Dominance Test is >50%		
5		·		Prevalence Index is = 3.0<sup 1		
6		·		Morphological adaptations (provide		
8.				supporting data in remarks)		
Herb Stratum Total Cover:	70			Problematic hydrophytic vegetation (explain)		
	N/A	-		<sup>1</sup> Indicators of hydric soil and wetland hydrology		
1				must be present, unless disturbed or problematic.		
2						
Woody Vines Total Cover:				Hydrophytic Vec XI No		
% Bare ground in herb stratum <u>30</u>		Vegetation Present ?				
<b>Remarks:</b> SP12 does not meet hydrophytic vege	tation indicators					

SOIL	
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Depth	Matrix		Redo	x Features	. 1		
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Type	Loc	lexture Remarks	
0-12	10YR 3/1	100				<u>clay</u>	
1							
Type: C=Co	ncentration, D=De	epletion, RN	1=Reduced Matrix.	<sup>2</sup> Location: PL=F	ore Lining	g, RC=Root Channel, M=Matrix	. 3
	(A1)	cable to al	Candy Podox (S5)	wise noted.)		Indicators for Problematic Hydric Soi	ls°:
	(AI) Dinedon (A2)		Stripped Matrix (S	6)		$\square 1 \text{ Cm Muck (A9) (LRR C)}$	
Black Hi	stic (A3)		Loamy Mucky Min	eral (F1)		ZCM Muck (ATU)(LRR B)     Reduced Vortic (E18)	
	n Sulfide (A4)		Loamy Gleved Ma	trix (F2)		Reduced Vertic (FTo)     Red Parent Material (TE2)	
Stratified	Lavers (À5)(LRR	C)	Depleted Matrix (F	3)		$\square$ Other (explain in remarks)	
🔲 1cm Muo	ck (A9)(LRR D)	,	Redox Dark Surfa	ce (F6)			
Depleted	Below Dark Surfa	ace (A11)	Depleted Dark Su	face (F7)			
Thick Da	rk Surface (A12)		Redox Depression	is (F8)			
Sandy M	lucky Mineral (S1)		□ Vernal Pools (F9)			<sup>3</sup> Indicators of hydric vegetation and	
☐ Sandy G	leyed Matrix (S4)					wetland hydrology must be present.	
Restrictive	Layer (if present)	:					
Type:			_				
Depth (incl	nes):					Hydric Soil Present ? 🛛 Y	'es 🛛 No
Remarks: or	12 doos not most	budria agil	indiaatora			ł	
J-		Tryunc Son	indicators.				

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)		
Primary Indicators (any one indicator is suffici	ent)				
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)(Nonriverine)</li> <li>Sediment Deposits (B2)(Nonriverine)</li> <li>Drift Deposits (B3)(Nonriverine)</li> <li>Surface Soil Cracks (B6)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Water-Stained Leaves (B9)</li> </ul>	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in PLowed S</li> <li>Other (Explain in Remarks)</li> </ul>	<ul> <li>Water Marks (B1)(Riverine)</li> <li>Sediment Deposits (B2)(Riverine)</li> <li>Drift Deposits (B3)(Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>			
Field Observations:					
Surface water present?  Yes X No	Depth (inches):				
Water table present? Xes D No	Depth (inches): 7				
Saturation Present? Xes I No (includes capillary fringe)	Depth (inches): <u>0-12</u>	Wetland H	lydrology Present ? 🛛 Yes 🗌 No		
Describe recorded data (stream guage, monited	oring well, aerial photos, etc.) if available				
Remarks: SP12 meets the High Water Table (	A2) and Saturation (A3) wetland hydrolo	gy indicators.			

APPENDIX C -- Representative Site Photographs



**Photograph 1.** Image shows seasonal wetland W01, in the southwestern portion of the Project Area. View facing east. Photograph taken February 22, 2018.



**Photograph 2.** Image shows seasonal wetland W03, located adjacent to the west of Northside Drive, in the southwestern portion of the Project Area. View facing north. Photograph taken February 22, 2018.



Appendix C. Site Photographs



**Photograph 3.** Image shows seasonal wetland W04, located in the southeastern corner of the Project Area. View facing south. Photograph taken February 22, 2018.



**Photograph 4.** Image shows seasonal wetland W05, located at the base of the road bank on the north side of Gleason Drive in the northern portion of the Project Area. View facing east. Photograph taken February 22, 2018.



Appendix C. Site Photographs



**Photograph 5.** Image shows seasonal wetland W06, a flat to slightly sloping area of whitish clay. View facing east. Photograph taken March 19, 2018.



**Photograph 6.** Image shows ruderal grassland in the northern portion of the Project Area, with the former homestead location visible in the background. Image is representative of upland areas in the Project Area. View facing south. Photograph taken March 19, 2018.



Appendix C. Site Photographs

APPENDIX D -- List of All Plant Species Observed within the Project Area

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Anacardiaceae	Pistacia chinensis	Chinese pistache	non- native	tree	-	-	-	-
Apiaceae	Foeniculum vulgare	Fennel	non- native (invasive)	perennial herb	-	High	-	-
Apiaceae	Torilis arvensis	Field hedge parsley	non- native (invasive)	annual herb	-	Moderate	-	-
Arecaceae	Washingtonia robusta	Washington fan palm	non- native (invasive)	tree	-	Moderate	FACW	-
Asteraceae	Baccharis pilularis ssp. consanguinea	Coyote brush	native	shrub	-	-	-	-
Asteraceae	Carduus pycnocephalus ssp. pycnocephalus	Italian thistle	non- native (invasive)	annual herb	-	Moderate	-	-
Asteraceae	Centaurea solstitialis	Yellow starthistle	non- native (invasive)	annual herb	-	High	-	-
Asteraceae	Centromadia parryi ssp. congdonii	Congdon's tarplant	native	annual herb	Rank 1B.1	-	FACW	*A2
Asteraceae	Cirsium vulgare	Bullthistle	non- native (invasive)	perennial herb	-	Moderate	FACU	-

Appendix D. List of Plant Species Observed in the Project Area on December 7, 2017 and February 22 and March 19, 2018.

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Asteraceae	Dittrichia graveolens	Stinkwort	non- native (invasive)	annual herb	-	Moderate	-	-
Asteraceae	Erigeron bonariensis	Flax-leaved horseweed	non- native	annual herb	-	-	FACU	-
Asteraceae	Erigeron canadensis	Canada horseweed	native	annual herb	-	-	FACU	-
Asteraceae	Helminthotheca echioides	Bristly ox- tongue	non- native (invasive)	annual, perennial herb	-	Limited	FAC	-
Asteraceae	Lactuca serriola	Prickly lettuce	non- native	annual herb	-	-	FACU	-
Asteraceae	Psilocarphus oregonus	Woolly marbles	native	annual herb	-	-	OBL	В
Asteraceae	Senecio vulgaris	Common groundsel	non- native	annual herb	-	-	FACU	-
Asteraceae	Silybum marianum	Milk thistle	non- native (invasive)	annual, perennial herb	-	Limited	-	-
Asteraceae	Soliva sessilis	South american soliva	non- native	annual herb	-	-	FACU	-
Asteraceae	Sonchus asper ssp. asper	Sow thistle	non- native	annual herb	-	-	FAC	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Asteraceae	Sonchus oleraceus	Sow thistle	non- native	annual herb	-	-	UPL	-
Asteraceae	Tragopogon porrifolius	Salsify	non- native	perennial herb	-	-	-	-
Boraginaceae	Amsinckia intermedia	Common fiddleneck	native	annual herb	-	-	-	-
Boraginaceae	Amsinckia lycopsoides	Tarweed fiddleneck	native	annual herb	-	-	-	В
Boraginaceae	Plagiobothrys stipitatus var. micranthus	Common stipitate popcornflower	native	annual herb	-	-	FACW	-
Boraginaceae	Plagiobothrys stipitatus var. stipitatus	Stipitate popcornflower	native	annual herb	-	-	FACW	С
Brassicaceae	Brassica nigra	Black mustard	non- native (invasive)	annual herb	-	Moderate	-	-
Brassicaceae	Capsella bursa-pastoris	Shepherd's purse	non- native	annual herb	-	-	FACU	-
Brassicaceae	Hirschfeldia incana	Short-podded mustard	non- native (invasive)	perennial herb	-	Moderate	-	-
Brassicaceae	Lepidium nitidum	Shining pepper grass	native	annual herb	-	-	FAC	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual <sup>4</sup>
Brassicaceae	Raphanus sativus	Radish	non- native (invasive)	annual, biennial herb	-	Limited	-	-
Chenopodiaceae	Salsola australis	Russian thistle	non- native	annual herb	-	-	-	-
Convolvulaceae	Convolvulus arvensis	Field bindweed	non- native	perennial herb, vine	-	-	-	-
Convolvulaceae	Cressa truxillensis	Alkali weed	native	perennial herb	-	-	FACW	-
Cyperaceae	Cyperus eragrostis	Tall cyperus	native	perennial grasslike herb	-	-	FACW	-
Euphorbiaceae	Croton setiger	Turkey- mullein	native	perennial herb	-	-	-	-
Euphorbiaceae	<i>Euphorbia</i> sp.	Spurge	non- native	annual herb	-	-	-	-
Fabaceae	Acacia melanoxylon	Blackwood acacia	non- native (invasive)	tree	-	Limited	-	-
Fabaceae	Lupinus bicolor	Lupine	native	annual, perennial herb	-	-	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Fabaceae	Medicago polymorpha	California burclover	non- native (invasive)	annual herb	-	Limited	FACU	-
Fabaceae	Trifolium hirtum	Rose clover	non- native (invasive)	annual herb	-	Limited	-	-
Fabaceae	Vicia sativa	Spring vetch	non- native	annual herb, vine	-	-	FACU	-
Fagaceae	Quercus agrifolia var. agrifolia	Coast live oak	native	tree	-	-	-	-
Frankeniaceae	Frankenia salina	Alkali heath	native	perennial herb	-	-	FACW	-
Geraniaceae	Erodium botrys	Big heron bill	non- native	annual herb	-	-	FACU	-
Geraniaceae	Erodium cicutarium	Coastal heron's bill	non- native (invasive)	annual herb	-	Limited	-	-
Geraniaceae	Erodium moschatum	Whitestem filaree	non- native	annual herb	-	-	-	-
Geraniaceae	Geranium dissectum	Wild geranium	non- native (invasive)	annual herb	-	Limited	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Geraniaceae	Geranium molle	Crane's bill geranium	non- native	annual, perennial herb	-	-	-	-
Juglandaceae	Juglans hindsii	Northern california black walnut	native	tree	Rank 1B.1	-	FAC	*A2
Lamiaceae	Lamium amplexicaule	Henbit	non- native	annual herb	-	-	-	-
Lythraceae	Lythrum hyssopifolia	Hyssop loosestrife	non- native (invasive)	annual, perennial herb	-	Limited	OBL	-
Lythraceae	Punica granatum	Pomegranate	non- native	shrub	-	-	-	-
Malvaceae	Malvella leprosa	Alkali mallow	native	perennial herb	-	-	FACU	-
Montiaceae	Calandrinia menziesii	Red maids	native	annual herb	-	-	FACU	-
Moraceae	Ficus carica	Common fig	non- native (invasive)	tree	-	Moderate	FACU	-
Myrsinaceae	Lysimachia arvensis	Scarlet pimpernel	non- native	annual herb	-	-	FAC	-
Oleaceae	Ligustrum sp.	Privet	non- native	tree, shrub	-	-	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Oleaceae	Olea europaea	Olive	non- native (invasive)	tree, shrub	-	Limited	-	-
Onagraceae	Epilobium brachycarpum	Willow herb	native	annual herb	-	-	-	-
Onagraceae	Epilobium campestre	Smooth boisduvalia	native	annual herb	-	-	OBL	В
Onagraceae	Epilobium ciliatum	Slender willow herb	native	perennial herb	-	-	FACW	-
Onagraceae	Oenothera cf. elata	Evening- primrose	native	perennial herb	-	-	FACW	-
Oxalidaceae	Oxalis pes- caprae	Bermuda buttercup	non- native (invasive)	perennial herb	-	Moderate	-	-
Plantaginaceae	Kickxia spuria	Fluellin	non- native	perennial herb	-	-	-	-
Plantaginaceae	Plantago lanceolata	Ribwort	non- native (invasive)	perennial herb	-	Limited	FAC	-
Plantaginaceae	Veronica persica	Bird's eye speedwell	non- native	annual herb	-	-	-	-
Poaceae	Avena barbata	Slim oat	non- native (invasive)	annual, perennial grass	-	Moderate	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual⁴
Poaceae	Bromus diandrus	Ripgut brome	non- native (invasive)	annual grass	-	Moderate	-	-
Poaceae	Bromus hordeaceus	Soft chess	non- native (invasive)	annual grass	-	Limited	FACU	-
Poaceae	Cynodon dactylon	Bermuda grass	non- native (invasive)	perennial grass	-	Moderate	FACU	-
Poaceae	Elymus glaucus	Blue wildrye	native	perennial grass	-	-	FACU	-
Poaceae	Elymus triticoides	Beardless wild rye	native	perennial grass	-	-	FAC	-
Poaceae	Festuca bromoides	Brome fescue	non- native	annual grass	-	-	FACU	-
Poaceae	Festuca myuros	Rattail sixweeks grass	non- native (invasive)	annual grass	-	Moderate	FACU	-
Poaceae	Festuca perennis	Italian rye grass	non- native (invasive)	annual, perennial grass	-	Moderate	FAC	-
Poaceae	Hordeum marinum ssp. gussoneanum	Barley	non- native (invasive)	annual grass	-	Moderate	FAC	-
Poaceae	Hordeum murinum	Foxtail barley	non- native (invasive)	annual grass	-	Moderate	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>	East Bay Rare and Unusual <sup>4</sup>
Poaceae	Phalaris aquatica	Harding grass	non- native (invasive)	perennial grass	-	Moderate	FACU	-
Poaceae	Poa annua	Annual blue grass	non- native	annual grass	-	-	FAC	-
Poaceae	Polypogon monspeliensis	Annual beard grass	non- native (invasive)	annual grass	-	Limited	FACW	-
Polygonaceae	Polygonum aviculare	Prostrate knotweed	non- native	annual, perennial herb	-	-	FAC	-
Rosaceae	Cotoneaster sp.	Cotoneaster	non- native	shrub	-	-	-	-
Rosaceae	Prunus cerasifera	Cherry plum	non- native (invasive)	tree	-	Limited	-	-
Rosaceae	Prunus dulcis	Almond	non- native	tree	-	-	-	-
Tamaricaceae	Tamarix cf. ramosissima	Tamarisk	non- native	tree, shrub	-	High	FAC	-
Ulmaceae	<i>Ulmus</i> sp.	-	-	-	-	-	-	-
Vitaceae	Vitis vinifera	Cultivated grape	non- native	vine, shrub	-	-	-	-

All species identified using the Jepson eFlora [Jepson Flora Project (eds.) 2018]; nomenclature follows Jepson eFlora [Jepson Flora Project (eds.) 2018]
 \*Special-status only at native occurrences. The Project Area does not contain a native occurrence of this species.

<sup>1</sup>Rarity Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2018b)

FE:	Federal Endangered						
FT:	Federal Threatened						
SE:	State Endangered						
ST:	State Threatened						
SR:	State Rare						
Rank 1A:	Plants presumed extinct in California						
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere						
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere						
Rank 3:	Plants about which we need more information – a review list						
Rank 4:	Plants of limited distribution – a watch list						
<sup>2</sup> Invasive Status: Califor	nia Invasive Plant Inventory (Cal-IPC 2018)						
High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.						
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-						
	moderate distribution ecologically						
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically						
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat						
<sup>3</sup> Wetland Status: Nation	al List of Plant Species that Occur in Wetlands, California – Arid West (Lichvar et al. 2016)						
OBL:	Almost always found in wetlands; >99% frequency						
FACW:	Usually found in wetlands; 67-99% frequency						
FAC:	Equally found in wetlands and uplands; 34-66% frequency						
FACU:	Usually not found in wetlands; 1-33% frequency						
UPL:	Almost never found in wetlands; >1% frequency						
NL:	Not listed, assumed almost never found in wetlands; >1% frequency						
NI:	No information; not factored during wetland delineation						
<sup>4</sup> East Bay Rare and Unu	sual: Rare, Unusual, and Significant Plants of Alameda and Contra Costa Counties (web application) (Lake 2018)						
A1:	Locally Rare Species. Species occurring in two or fewer regions in Alameda and Contra Costa counties						
A1x:	Locally Rare Species. Species presumed extirpated from Alameda and Contra Costa counties						
A1?:	Locally Rare Species. Species possibly occurring in Alameda and Contra Costa counties. Identification or location is uncertain						
A2:	Locally Rare Species. Plants occurring in three to five regions or are otherwise threatened in Alameda and Contra Costa counties.						
B:	High Priority Watch List. Plants occurring in six to nine regions in Alameda and Contra Costa counties.						
C:	Second Priority Watch List. Plants occurring in ten to fifteen regions in Alameda and Contra Costa counties.						
*.	Ranks preceded by an asterisk (e.g. "*A1") also have a statewide rarity ranking						