Preliminary Jurisdictional Wetland and Other Waters Delineation

Emerald Family Farms, LLC Willow Creek, California

Prepared for:

Emerald Family Farms, LLC



812 W. Wabash Ave. Eureka, CA 95501-2138 707-441-8855

September 2016 016225.003

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QA/QC: GCR___

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Abbreviations and Acronyms

APN	Assessor's parcel number
CDEC	California Data Exchange Center
CFR	Code of Federal Regulations
СТ	control point
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
ERDC/CRREL	U.S. Army Engineer Research and Development Center/Cold Regions Research
	and Engineering Laboratory
FAC	facultative wetland plant species
FACU	facultative-upland wetland plant species
FACW	facultative-wet wetland plant species
GIS	geographic information system
GPS	global positioning system
NCDC	National Climatic Data Center
NL	not listed Wetland plant species
NOAA	National Oceanic & Atmospheric Administration
NR	no reference
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	obligate wetland plant species
OHWM	ordinary high water mark
Redox	redoximorphic
RWQCB	California Regional Water Quality Control Board
SHN	SHN Engineers & Geologists
SS	scrub-shrub
SWRCB	State Water Resources Control Board
ТР	test pit
U	upland site
UPL	upland wetland plant species
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	United States Department of Agriculture
USFWS	U. S. Fish & Wildlife Service
USGS	United States Geological Survey
W	wetland site
WDRs	waste discharge requirements
WETS	Climate Analysis for Wetlands Tables
WoS	waters of the State
WoUS	waters of the United States



1.0 Introduction

SHN Engineers & Geologists has prepared this preliminary jurisdictional wetland and other waters delineation for Emerald Family Farms, LLC in Willow Creek, California. Fieldwork was performed by SHN staff.

1.1 Purpose

The purpose of this report is to identify potential jurisdictional wetlands and other waters of the U.S. and State at the project site, as defined by the United States Army Corps of Engineers (USACE) methodology. The delineation of these features will help guide the design and construction of future development within the study area and avoid impacts to potential jurisdictional wetlands. The results of this report will be used to facilitate the permitting process for the proposed project.

1.2 Project Location

The project is located in Willow Creek, California, an incorporated town of Humboldt County (Figure 1; United States Geological Survey [USGS] Willow Creek and Salyer 7.5-minute Quadrangles, Township 7 North, Range 5 East, Sections 28 and 33, Humboldt Meridian). The project is located in a 19.5-acre portion of a 42.2-acre parcel (Assessor's parcel number [APN] 522-201-01) with a central location latitude and longitude of 40.9429° and -123.6270°, respectively. The site is approximately a quarter mile northeast from central downtown Willow Creek at 131 Flower-McNeil Road off of Country Club Road.

2.0 Project Description

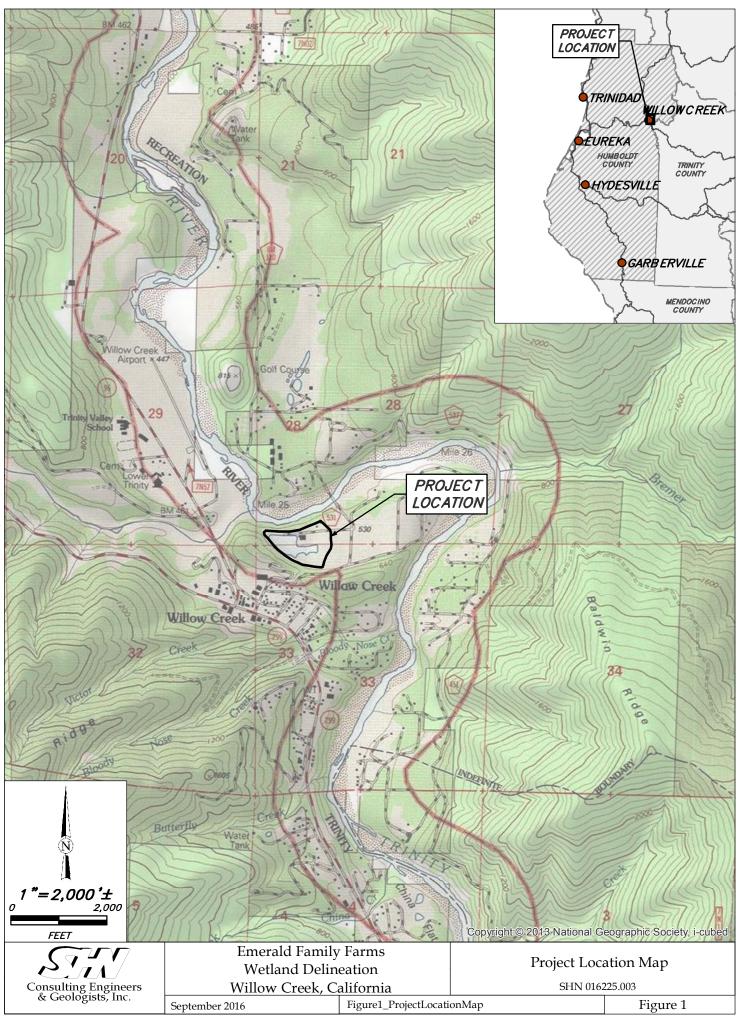
Agricultural-related uses are being considered for the study area. This report will assist in the project planning phase and determining the location for construction activities.

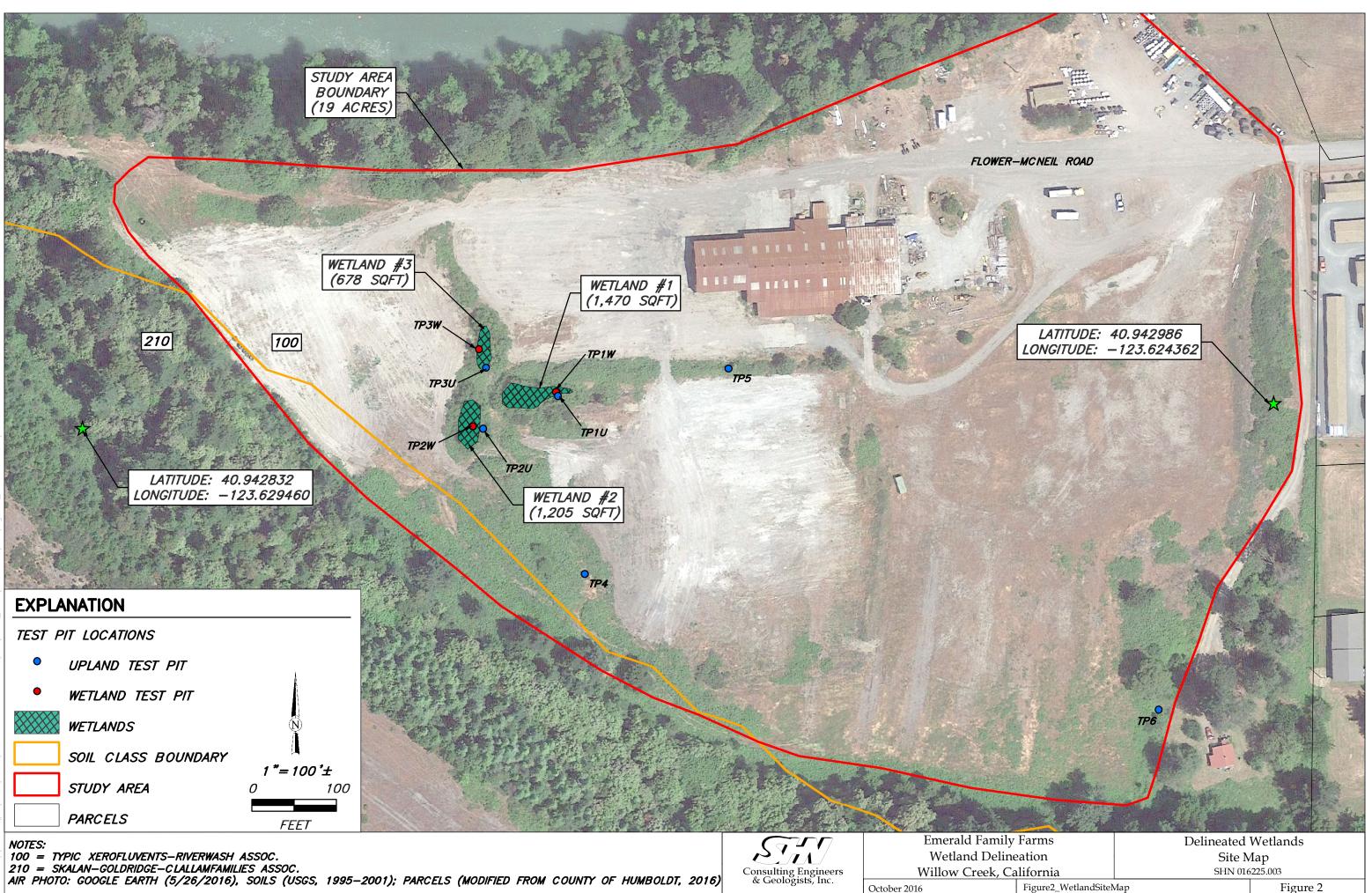
3.0 Environmental Setting

The study area is situated at the approximate 530-foot elevation above mean sea level on a large, flat terrace with a steep uphill slope on its southern boundary and the Trinity River riparian embankment on the northern boundary (See Figure 2 and Appendix A). The study area has functioned as an industrial facility for the past half century, possibly longer. Its main use was as a lumber mill with a mill pond constructed on the western portion of the study area (Figure 1). Portions of the pond have been filled leaving a network of depressional features and catchment ponds formed by man-made berms (see Figure 2 and Appendix B, photos B1 and B2). The majority of the project site has experienced extensive fill and grading. Reviewing the history of the site on Google Earth shows that the majority of the grading activity pre-dates their oldest aerial photo of 1988. There are several existing outbuildings within the study area; the eastern portion of the study area has been used as a wildlands firefighter staging area and base camp for emergency fire activities.

The average 30-year precipitation (1980 to 2010) for this area from October 1 through August 31 is 54.79 inches (NOAA, 2016). Rainfall for the period from October 1, 2015 through August 31, 2016, is 62.16 inches (CDEC, 2016), indicating that the 2015-2016 rain season is in an above-normal







Eiguro?	WotlandSiteMa
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Figure 2

category. Using the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Climate Analysis for Wetlands Table (WETS) method that reviews the previous three months before the investigation (or the same month and two prior if after the 15th) indicates that these most current months are considered a normal rainfall (Table 1; USDA-NRCS, 2016).

	W Emerald Family I	Table 1 /ETS Rainfall Dat Farms Property, W		
Month	WETS data	Rank	Weight	Value
August 2016	Normal	2	3	6
July 2016	Normal	2	2	4
June 2016	Normal	2	1	2
			Total	12
A sum of 10-14 price	or to site investigation is	considered normal	rainfall	

4.0 Vegetation

The study area is a flat graded surface, with considerable influx of non-native species, predominantly Himalayan blackberry (*Rubus armeniacus*, facultative [FAC]), wild oat (*Avena sativa*, upland [UPL]), and yellow star thistle (*Centaurea solstitialis*; not listed [NL]). The old lumber mill logging pond has been drained, but small depressional areas remain. These swales are predominantly vegetated with Himalayan blackberry, but the deeper swales also contain the native arroyo willow (*Salix lasiolepis* [FACW]), pacific willow (*Salix lasiandra var. lasiandra* [facultative wet FACW]), and black cottonwood (*Populus trichocarpa* [FAC]). A complete list of plants observed within the study area is compiled in Table C-1 in Appendix C.

5.0 Geologic and Soil Composition

The site is set in the coastal mountains approximately 26 miles east of the Pacific Ocean coast. It is located on a fluvial floodplain terrace above the Trinity River, composed of the Galice formation sediments, which consists of Jurassic-aged marine sediments.

The underlying soils in the project site have a USDA classification of Typic Xerofluvents-Riverwash association, 2 to 10 percent slopes (map unit 100) in 90% of the project area (Figure 2), and 10% Skalan-Goldridge-Clallam families association, deep, 20 to 70 percent slopes (map unit 210). Due to the unknown source of fill found onsite, these descriptions are the general depiction of what may be encountered. The actual soil description at each exploratory soil test pit is described in the field data forms found in Appendix D.

100- Typic Xerofluvents-Riverwash association, 2 to 10 percent slopes

Description of Typic Xerofluvents Typical profile H1 - 0 to 10 inches: gravelly sandy loam H2 - 10 to 60 inches: stratified extremely gravelly loamy sand to silt loam Properties and qualities Slope: 2 to 10 percent



Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat excessively drained Runoff class: Low Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr) Depth to water table: More than 80 inches Frequency of flooding: Occasional Frequency of ponding: None Available water storage in profile: Low (about 4.1 inches)

Description of Riverwash

Typical profile H1 - 0 to 60 inches: very bouldery loamy sand *Properties and qualities* Slope: 2 to 10 percent Percent of area covered with surface fragments: 2.0 percent Natural drainage class: Excessively drained Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr) Frequency of flooding: Frequent

210—Skalan-Goldridge-Clallam families association, deep, 20 to 70 percent slopes

Description of Skalan, Deep Typical profile

H1 - 0 to 12 inches: very gravelly loam
H2 - 12 to 56 inches: very gravelly clay loam
H3 - 56 to 60 inches: unweathered bedrock **Properties and qualities**Slope: 20 to 55 percent
Depth to restrictive feature: 56 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately
high (0.14 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.5 inches)

Description of Goldridge, Deep Typical profile

H1 - 0 to 4 inches: very gravelly loam
H2 - 4 to 30 inches: gravelly clay loam
H3 - 30 to 43 inches: gravelly clay
H4 - 43 to 47 inches: unweathered bedrock **Properties and qualities**Slope: 20 to 35 percent
Depth to restrictive feature: 43 to 47 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high



Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 0.57 in/hr) Depth to water table: More than 80 inches Custom Soil Resource Report 14 Frequency of flooding: None Frequency of ponding: None Available water storage in profile: Low (about 5.7 inches)

Description of Clallam, Deep Typical profile H1 - 0 to 4 inches: very gravelly loam H2 - 4 to 30 inches: extremely gravelly loam H3 - 30 to 53 inches: extremely gravelly loam, very gravelly loam H3 - 30 to 53 inches: unweathered bedrock H4 - 53 to 57 inches: Properties and qualities Slope: 50 to 70 percent Depth to restrictive feature: 53 to 57 inches (USDA, 2016b)

6.0 Regulatory Setting

6.1 Federal Laws

6.1.1 Section 401 and 404 of the Clean Water Act

Under Section 404 (33 U.S. Code [USC] 1344) of the Clean Water Act (CWA), as amended, the USACE and the Environmental Protection Agency (EPA) retain primary responsibility for permits to discharge dredged or fill material into "navigable waters of the United States." All discharges of dredged or fill material into jurisdictional waters of the United States (WoUS) that result in permanent or temporary losses of WoUS are regulated by the USACE. A permit from the USACE must be obtained before placing fill or grading in wetlands or other WoUS, unless the activity is exempt from CWA Section 404 regulation (for example, certain farming and forestry activities).

In summary, the definition of WoUS as defined by 33 Code of Federal Regulations (CFR) Section 328.3 includes:

- 1. waters used for commerce,
- 2. interstate wetlands,
- 3. all other waters (including lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds),
- 4. impoundments of water,
- 5. tributaries to aforementioned waters,
- 6. territorial seas, and
- 7. wetlands adjacent to waters.

Under 33 CFR 328.3, WoUS do not include prior converted cropland or waste treatment systems.



In 2008, the EPA and USACE released a guidance memorandum implementing the Supreme Court's decision in the cases of the Rapanos v. U.S. and Carabell v. U.S. Because of these cases, the agencies will apply a significant nexus standard to the following categories to determine if it meets the definition of a WoUS:

- Non-navigable tributaries that are not relatively permanent
- Wetland adjacent to non-navigable tributaries that are not relatively permanent
- Wetland adjacent to but that does not directly abut a relatively permanent tributary

Section 401 of the CWA (33 USC 1341) requires applicants for a federal license or permit to obtain a certification from the state in which the discharge originates or would originate, or if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

6.1.2 Rivers and Harbors Appropriation Act of 1899

The River and Harbors Appropriation Act of 1899 addresses activities that involve the construction of dams, bridges, dikes, and other structures across any navigable water. Placing obstructions to navigation outside established federal lines and excavating from or depositing material in such waters require permits from the USACE Section 10 (33 USC 403) of the Rivers and Harbors Appropriation Act and prohibits the unauthorized obstruction or alteration of any navigable WoUS.

6.2 State Laws-Porter-Cologne Water Quality Act

The state maintains independent regulatory authority over the placement of waste, including fill, into waters of the State (WoS) under the Porter-Cologne Water Quality Act. WoS are defined by the Porter-Cologne Water Quality Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. WoS are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

Projects that require an USACE permit, or fall under other federal jurisdiction, and have the potential to impact WoS are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge to WoS, then the local RWQCB has the option to regulate such activities under its state authority in the form of waste discharge requirements (WDRs) or certification of WDRs. Water Quality Order No. 2004-0004-DWQ specifies general WDRs for dredge or fill discharges to waters deemed by the USACE to be outside of federal jurisdiction under Section 404 of the CWA.



7.0 Methodology

Wetland delineation methods described in *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE, 2010) were used to identify potential wetlands and other waters. The routine method for wetland delineation described in the USACE 1987 manual was used to identify potential wetlands within the study area. The USACE method relies on a three-parameter approach, in which criteria for hydrophytic vegetation, hydric soils, and wetland hydrology must each be met (present at the point of field investigation) to conclude that an area qualifies as a wetland.

Hydrophytic vegetation refers to plant species known to be adapted to wetland sites. To classify the hydrophytic plants onsite, the most recent *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* was used (USACE, 2016). Hydric soils are soils that are formed under saturated conditions, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (USDA, 2010). Wetland hydrology is demonstrated through direct evidence (primary indicators) or indirect evidence (secondary indicators) of flooding, ponding, or saturation for a significant portion of the growing season (USACE, 2010).

At each investigation point, two test pits (TP) were excavated to find the boundary of the wetland: a wetland site (W) and an upland site (U). These are called "paired plots." Paired upland and wetland test pits are located as close together as possible, while avoiding transitional areas. If a suspected wetland test pit was not determined to be a USACE-designated wetland, a second upland paired plot was not performed.

Prior to conducting the field investigation, SHN staff reviewed the USGS topographic quadrangle map (Figure 1); USDA-NRCS Web Soil Survey website (USDA, 2016); and NWI map (USFWS, 2016) (Appendix A). During the field investigation, sample points were characterized at the site for the aforementioned botanical, hydrological, and soil parameters.

Point locations were selected to:

- achieve appropriate coverage and characterization of wetland and upland habitats,
- document potential changes in the vegetative community (such as, a shift in the dominant species), and
- determine the approximate boundary line between wetlands and uplands by determining the extent of key wetland criteria (hydrology, hydric soils, and hydrophytic vegetation).

Field investigations were conducted on August 26 and September 1, 2016. Three paired test pits and three investigative pits (nine test pits total), were excavated to characterize the area and record information for soils, vegetation, and hydrology on USACE Wetland Determination Data Forms (Appendix D). Locations of TPs are shown on Figure 2. Photos of the study area are included in Appendix B.

All field mapping was completed with a Trimble pro 6t global positioning system (GPS) antenna connected to a Panasonic Toughbook CF-19 with geographic information system (GIS) software. SHN downloaded the appropriate aerial photos and digitized relevant site plan mapping (Google Earth, 2016). Several fixed locations (for example fence angles) were marked as control points (CT) with the Trimble Pro 6t to get an estimate of aerial imagery accuracy.



7.1 Vegetation Methodology

Prior to the field investigation, a review of plant species reported to be within the project area was performed by querying the "Consortium of California Herbaria" database records and "Calflora" observations. It was determined that the site investigation was performed during an above-normal rainfall period by reviewing rainfall data from October 2015 through August 2016 (see Section 3.0). Absolute percent cover of each plant species was visually estimated within the sample point and within each vegetation stratum. The tree stratum was inspected at a 30-foot radius centered on the sample point, the herbaceous and sapling/shrub strata at a 5-foot radius. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin et al., 2012) in addition to the online Jepson Interchange (U. C. Berkeley, 2016) for verification of species whose taxonomy may have changed since its publication.

The wetland indicator status of plant species for this investigation was based on the *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* (USACE, 2016). Synonyms were checked for species that did not appear on the USACE wetland plant list. Plant species were classified as:

- Obligate (OBL)-usually occurs within a wetland (estimated probability 99%)
- Facultative-wet (FACW)-usually occurs in wetlands (estimated probability 67-99%)
- Facultative (FAC)–equally likely to occur in wetlands or non-wetlands (estimated probability 33-67%)
- Facultative-upland (FACU)-usually occurs in non-wetlands (estimated probability 1-33%)
- Upland (UPL)-occurs almost always in non-wetlands (estimated probability 99%)
- Not listed (NL)-scored as an upland plant and calculated as such on wetland determination forms

The 50/20 method¹ was applied to each stratum to determine the dominant plant species and to satisfy the hydrophytic vegetation criteria. If either hydric soils or wetland hydrology were present, the prevalence index² was applied. The occurrence and type of plant cover determine whether jurisdictional areas are identified as satisfying the vegetation criteria of a wetland or other waters. Those sites with little or no hydrophytic plant cover, or other sites not capable of supporting hydrophytic plant communities in normal circumstances, are identified as other waters, provided they have an ordinary high water mark (OHWM).

7.2 Soils Methodology

Soils were field-verified for the presence or absence of hydric conditions. All test pits were dug to a minimum depth of 20 inches, and the thickness of each soil horizon was measured. The Munsell Soil Color Chart (Kollmorgen Instruments Corporation, 1998) was referenced to determine the

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^{1.} The 50/20 rule: for each stratum of the plant community, dominant species are the most abundant species that (when ranked in descending order of abundance and cumulatively totaled) immediately exceed 50% of total dominance measure for the stratum, plus any additional species that individually comprise 20% or more of the total dominance measure for the stratum (USACE, 2010).

^{2.} The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot or other sampling unit, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (absolute percent cover).

colors of the moist soil matrix and redoximorphic (redox) features (if present). Soils were closely inspected for hydric soil indicators, as defined by the NRCS "Field Indicators of Hydric Soils in the United States" (Version 7.0; USDA, 2010).

7.3 Hydrology Methodology

The presence (or lack) of wetland hydrology indicators was determined by direct observation of surface water, groundwater, or shallow soil saturation during the field investigation. In some cases, hydrology determinations were made based on hydrology indicators (for example, drainage patterns, geomorphic placement, and water-stained leaves) rather than actual direct evidence from saturation or inundation itself. Additionally, observations were made that would indicate if the site is subject to flooding or standing water. Potential indicators would include water marks, drift deposits, sediment deposits, and similar features. Indicators of extended period saturation would include oxidized rhizospheres surrounding living roots or the presence of reduced iron or sulfur in the soil profile. A site location must contain at least one primary indicator or two secondary indicators to have the hydrology parameter.

7.4 Ordinary High Water Mark Methodology

For purposes of Section 404 of the CWA, the lateral limits of jurisdiction over non-tidal water bodies in the absence of adjacent wetlands extend to the OHWM. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. For purposes of Sections 9 and 10 of the Rivers and Harbors Act of 1899, the lateral extent of federal jurisdiction, which is limited to the traditional navigable waters of the United States, extends to the OHWM, whether or not adjacent wetlands extend landward of the OHWM (USACE, 2014).

USACE regulations define the term OHWM for the purposes of the CWA lateral jurisdiction as follows:

The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas at 33 CFR 328.3(e).

The OHWM in non-perennial streams corresponds with the boundaries of the active channel, which are typically expressed by some combination of three primary indicators: a topographic break in slope, change in sediment characteristics, and change in vegetation characteristics (USACE, 2014). The following supporting features should be considered when making an OHWM determination, to the extent that they can be identified and are deemed reasonably reliable (USACE, 2014):

- Drift/wrack
- Erosion/scour
- Bank undercutting
- Root exposure
- Point bars
- Water staining

- Litter Water staining
- removal
- Silt deposits
- Shelving
- Headcut/knickpoint
- Macroinvertebrates



8.0 Results

Field investigations were conducted on August 26 and September 1, 2016. Test pits (TP) were installed to characterize the area and record information for soils, vegetation, and hydrology. Locations of TPs are shown on Figure 2; completed "Wetland Determination Data Forms" are presented in Appendix D. Photos of the study area are shown in Appendix B.

8.1 TP1 Test Site

The TP1 site is located in a 10-foot wide diameter depression basin on an old logging pond site (Appendix B, Photo B-3), within a swale incised by erosion and a built-up berm. It is in part of a series of detention basins created by berms placed down-gradient. There is one paired plot for this depression: TP1W and TP1U.

TP1W has all three parameters present: vegetation, hydric soils, and hydrology and is, therefore, considered a wetland site. The vegetation contains the following: <u>tree stratum</u>-60 percent arroyo willow (*Salix lasiolepis* [FACW]); <u>sapling/shrub stratum</u>-15 percent arroyo willow and 5 percent Himalayan blackberry (*Rubus armeniacus* [FAC]).

The soils have the F6 redox dark surface indicator. The hydrology has the primary A2 high water table at 12 inches, B1 watermarks, and the C4 presence of reduced iron (tested positive to alphaalpha Dipyridyl solution) indicators and two secondary indicators: D2 geomorphic position and D5 FAC-Neutral test.

TP1U is situated on an eroded slope approximately 10 feet above TP1W and only has the vegetation parameter met. Therefore, TP1U is considered out of the wetland depression. The vegetation consists of the following: <u>tree stratum</u>-35 percent arroyo willow; <u>sapling/shrub stratum</u>-20 percent arroyo willow, 5 percent coyote brush (*Baccharis pilularis* [NL]), and 5 percent Scotch broom (*Cytisus scoparius* [NL]); <u>herb stratum</u>-15 percent rattlesnake grass (*Briza maxima* [NL]) and 5 percent common velvet grass (*Holcus lanatus* [FAC]).

No hydric soils or hydrology indicators are present.

8.2 TP2 Test Site

The TP2 site is situated in an approximate 25-foot wide depression basin on another branch of the incised swale (Appendix B, Photo B-4). There is one paired plot for this site: TP2W and TP2U.

TP2W has all three parameters present: vegetation, hydric soils, and hydrology and is, therefore, considered a wetland site. The vegetation consists of the following: <u>tree stratum</u>-50 percent arroyo willow and 20 percent pacific willow (*Salix lasiandra* var. *lasiandra* [FACW]); <u>sapling/shrub</u> <u>stratum</u>-35 percent Himalayan blackberry and 10 percent arroyo willow.

The soils have the F6 redox dark surface and the F8 redox depressions indicators. The hydrology has the primary A2 high water table mark at 14 inches, A3 saturation at 6 inches, the C4 presence of reduced iron (tested positive to alpha-alpha Dipyridyl solution), and C3 oxidized rhizospheres along living roots indicators. It also has the secondary D2 geomorphic position and FAC-Neutral test indicators.



TP2U is situated on an eroded slope approximately 5 feet above TP2W; it only meets the vegetation parameter. Therefore, TP2U is considered out of the wetland depression. The vegetation consists of the following: <u>tree stratum</u>-40 percent arroyo; <u>sapling/shrub stratum</u>-45 percent Himalayan blackberry and 15 percent arroyo willow.

There are no hydric soils indicators present and only the secondary hydrology FAC-Neutral indicator is met.

8.3 TP3 Test Site

The TP3 site is downgradient from TP2, separated by a berm (Appendix B, Photo B-5). This depression is a shallower feature, and it has another berm downgradient of TP3. There is one paired plot at this site: TP3W and TP3U.

TP3W is situated in a broad swale with an approximate 25-foot width. It has all three wetland parameters present: vegetation, hydric soils, and hydrology, and is, therefore, considered a wetland site. The vegetation consists of the following: <u>tree stratum</u>-35 percent arroyo willow and 25 percent black cottonwood (*Populus trichocarpa (Populus balsamifera*) [FAC]; <u>sapling/shrub stratum</u>-20 percent arroyo willow and 15 percent Himalayan blackberry; <u>herb stratum</u>-5 percent common bog rush (*Juncus effusus* [FAC]).

The soils have the S5 sandy redox indicator. There are the primary hydrology B1 water marks and B4 algal mat or crust indicators, and the secondary D2 geomorphic position and D5 FAC-Neutral test indicators.

TP3U is 23 feet away from TP3W due to a broad transitional area where the algal mats stop and hydric soils end. Vegetation is the only parameter met, and it consists of the following: <u>tree</u> <u>stratum</u>-20 percent arroyo willow; <u>sapling/shrub stratum</u>-60 percent Himalayan blackberry and 5 percent arroyo willow; <u>herb stratum</u>-5 percent tall cyperus (*Cyperus eragrostis* [FACW]) and 5 percent bent grass (*Agrostis exarata* [FACW]).

There are no hydric soils indicators present and only the secondary hydrology FAC-Neutral indicator present.

8.4 TP4 Test Site

TP4 (Appendix B, Photo B-6) is in a local topographic low of a closed basin approximately 20 feet wide and 120 feet long. There is buried metal and debris in this location, and it took several attempts to find a site that could be penetrated to 24 inches. The soils appear to be in situ longer than five years, and considered to be within "normal circumstances." None of the wetland parameters was present, and this basin is determined not to be a wetland. A second, paired test pit was not performed due to the lack of three wetland parameters in the most likely location for wetlands to occur in this vicinity.

The onsite vegetation found is as follows: <u>sapling/shrub stratum</u>-60 percent Himalayan blackberry; <u>herb stratum</u>-80 percent wild oat (*Avena sativa* [UPL]), 10 percent blue wildrye (*Elymus glaucus* [FACU]), and 2 percent medusa head (*Elymus caput-medusae* [NL]).



There are no hydric soils indicators present and only the secondary hydrology geomorphic position indicator present.

8.5 TP5 Test Site

TP5 was excavated to see if this closed basin is a wetland site (Appendix B, Photo B-7). There is a berm between this basin and the TP1 site. It was difficult to find "normal circumstances" because of the loose soils spilling into the swale. One area was found to be representative of "normal circumstances" (a surface at least older than five years). None of the wetland parameters was present, and this basin is determined not to be a wetland site. A second, paired test pit was not performed due to the lack of three wetland parameters in the most likely location for wetlands to occur in this vicinity.

The onsite vegetation found is as follows: <u>sapling/shrub stratum</u>-70 percent Himalayan blackberry; <u>herb stratum</u>-30 percent wild oat and 5 percent black mustard (*Brassica nigra* [NL]).

There are no hydric soils indicators present and only the secondary hydrology geomorphic position indicator present.

8.6 TP6 Test Site

This site was chosen to determine if this zone of Himalayan berries in the eastern portion of the study area is supporting a wetland (Appendix B, Photo B-8). Several exploratory pits were performed, but the soils encountered were recently moved and not considered "normal circumstances." The soils at TP6 aren't native according to the USDA NRCS soils survey (See Section 5.0), but has been in situ long enough to be considered "normal circumstances." None of the wetland parameters was present, and this area is determined not to be a wetland site. A second, paired test pit was not performed due to the lack of three wetland parameters in the most likely location for wetlands to occur in this vicinity.

The onsite vegetation found is as follows: <u>sapling/shrub stratum</u>-70 percent Himalayan blackberry; <u>herb stratum</u>-50 percent Kentucky blue grass (Poa pratensis [FAC]), 10 percent blue wildrye, 2 percent Queen Anne's lace (*Daucus carota* [FACU]), and 2 percent orchard grass (*Dactylis glomerata* [FACU]).

There are no hydric soils or hydrology indicators present.

8.7 Ordinary High Water Mark (OHWM)

Additional constructed swales exist in portions of the study area; however, these swales were not delineated as wetlands. Within these areas, no OHWM was observed. These constructed swales (outside of wetlands) consist of man-made depressional features with constructed banks and berms that facilitate water detention, preventing water flowing in a continuous stream channel across the study area. In evaluating whether or not the constructed swales contain an active channel, we determined that some of the swales contained a man-made break in slope but that there were not identifiable changes in sediment or vegetation characteristics.



9.0 Conclusions

The USFWS NWI website (Appendix A) does not show NWI designations in the study area. The site investigation occurred during an above-normal rainfall year during the summer season of 2016. Following the USACE 3-parameter guidelines, TP1W, TP2W, and TP3W have the vegetative, hydric soil, and hydrology indicators necessary to place them within wetland boundaries (Figure 2; Table 2). TP1U, TP2U, TP3U, and TP6 have the one vegetative parameter but not the hydrology or hydric soils parameters. TP4 and TP5 have none of the 3-parameter qualifications.

The wetlands occur in a drainage system where a logging pond used to exist. Man-made berms have turned the mill pond into a series of catchment ponds that do not appear to drain into one another. There were no OHWM observed within the project site.

I	Wetland Delineati	Table 2 on and OHWM ¹ Results Property, Willow Creek, CA	A
Waterbodies	Cowardian Type	Latitude/Longitude	Area (square feet)
Wetland #1	Palustrine SS ² 1 ³	40.942990, -123.627599	1,470
Wetland #2	Palustrine SS1	40.942859, -123.627838	1,205
Wetland #3	Palustrine SS1	40.943100, -123.627771	678
Total			3,353
1. OHWM: ordinary hig	h water mark		
2. SS: scrub-shrub			
3. broad-leaved deciduou	15		

10.0 Limitations

The conclusions in this report represent a "snapshot in time" and it is possible that some species were not present at the time of the fieldwork. This report documents the investigation by using the best professional judgment of SHN's botanist and soil scientist. The conclusions should be verified by the USACE through receipt of a jurisdictional determination letter.

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National Wetlands Inventory





U.S. Fish and Wildlife Service National Wetlands Inventory

Emerald Family Farms, LLC



September 7, 2016

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland Freshwater Emergent Wetland
- Freshwater Pond
 - Lake

Freshwater Forested/Shrub Wetland

Other Riverine This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Site Photographs





Photo B1: Project Area Terrain



Photo B3: TP1 Site



Photo B2: South-North Drainage



Photo B-4: TP2 Site





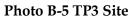




Photo B-6 TP4 Site



Photo B-7 TP5 Site



Photo B-8 TP6 Site



Plant List



	Table C-1	
E 11E	Plant List	
	mily Farms, Willow Creek	T 1: (001.01
Scientific Name	Common Name	Indicator 2016 ¹
Acer macrophyllum	big leaf maple	FACU
Adiantum jordanii	California maidenhair fern	FAC
Agrostis exarata	bentgrass	FACW
Alnus rhombifolia	white alder	FACW
Anisocarpus madioides	woodland madia	NL
Arbutus menziesii	madrono	NL
Arctostaphylos manzanita ssp. manzanita	common manzanita	NL
Artemisia douglasiana	California mugwort	FACW
Artemisia sp.	sage	NL
Athyrium filix-femina var. cyclosorum (Athyrium cyclosorum)	western lady fern	FAC
Avena sativa	wild oat	UPL
Baccharis pilularis	coyote brush	NL
Brassica nigra	black mustard	NL
Briza maxima	rattlesnake grass	NL
Bromus hordeaceus	soft chess	FACU
Carex nudata	torrent sedge	OBL
Ceanothus integerrimus	deer brush	NL
Centaurea solstitialis	vellow star thistle	NL
Cercis occidentalis		
(Cercis canadensis)	western redbud	UPL
Cichorium intybus	chicory	FACU
Cirsium vulgare	bull thistle	FACU
Cornus nuttallii	dogwood	FACU
Corylus cornuta ssp. californica	beaked hazelnut	FACU
Croton setigerus	turkey mullein	NL
Cynodon dactylon	Bermuda grass	FACU
Cynosurus echinatus	dogtail grass	NL
Cyperus eragrostis	tall cyperus	FACW
Cytisus scoparius	Scotch broom	NL
Dactylis glomerata	orchard grass	FACU
Darmera peltata	umbrella plant	OBL
Daurnera petiata	carrot	FACU
Deschampsia danthonioides	annual hair grass	FACW
Deschampsia elongata	hair grass	FACW
Disitaria sanguinalis	crab grass	FACU
Elymus caput-medusae	Medusa head	NL
Elymus glaucus	blue wild rye	FACU
Etymus guucus Epilobium ciliatum ssp. ciliatum	fringed willow herb	FACU
Epiloolum chlutum ssp. chlutum Eriogonum nudum	naked buckwheat	NL
8	white stemmed filaree	NL NL
Erodium brachycarpum		NL NL
Erodium brachycarpum	white stemmed filaree	
Euphorbia maculata	spotted spurge	UPL
Festuca idahoensis	blue fescue	FACU
Fragaria vesca	wild strawberry	FACU

	Table C-1	
	Plant List	
	ily Farms, Willow Creek	In diastan 001(1
Scientific Name	Common Name	Indicator 2016 ¹
Frangula californica	California coffeeberry	NL
Fraxinus latifolia	Oregon ash	FACW
Galium sp.	bedstraw	NL
Hedera helix	English ivy	FACU
Heterotheca oregona	Oregon golden aster	FACU
Heuchera micrantha	alum root	NL
Heuchera micrantha	alum root	NL
Hieracium albiflorum	white flowered hawkweed	NL
Holcus lanatus	common velvet grass	FAC
Holodiscus discolor	ocean spray	FACU
Hordeum marinum	seaside barley	FAC
Hypericum perforatum	Klamath weed	FACU
Hypochaeris radicata	hairy cats ear	FACU
Juncus bufonius	common toad rush	FACW
Juncus effusus	Common bog rush	FACW
Leucanthemum vulgare	ox- eye daisy	FACU
Lonicera hispidula	pink honeysuckle	FACU
Lysimachia arvensis	scarlet pimpernel	FAC
Malus X	cultivated apple	NL
Melilotus albus	white sweet clover	NL
Mentha pulegium	pennyroyal	OBL
Nicotiana quadrivalvis	Indian tobacco	FACU
Notholithocarpus densiflorus var. densiflorus	tanoak	NL
Panicum capillare	witch grass	FAC
Pinus ponderosa	ponderosa pine	FACU
Plantago lanceolata	ribwort	FACU
Poa pratensis	Kentucky blue grass	FAC
Polystichum munitum	western sword fern	FACU
Populus trichocarpa		
(Populus balsamifera)	black cottonwood	FAC
Prosartes smithii	largeflower fairybells	NL
Pseudotsuga menziesii var. menziesii	douglas fir	FACU
Pteridium aquilinum	western bracken fern	FACU
Quercus chrysolepis	gold cup live oak	NL
Quercus garryana	Oregon oak	FACU
Quercus kelloggii	California black oak	NL
Rubus armeniacus	Himalayan blackberry	FAC
Rubus ursinus	California blackberry	FACU
Rumex crispus	curly dock	FAC
Salix exigua	narrow leaf willow	FACW
Salix lasiandra var. lasiandra	pacific willow	FACW
Salix lasiolepis	arroyo willow	FACW
Sonchus asper ssp. asper	sow thistle	FACU
Spergularia rubra	purple sand spurry	FAC
Toxicodendron diversilobum	poison oak	FAC

 $[\]label{eq:constraint} $$ EFF-WC-CUP\003-Wetland-Bio\PUBS\Rpts\20161209_WetlandDel.doc C-2 $$

	Table C-1	
	Plant List	
Emerald	Family Farms, Willow Creek	
Scientific Name	Common Name	Indicator 2016 ¹
Tribulus terrestris	puncture vine	NL
Trichostema lanceolatum	vinegar weed	FACU
Trifolium repens	white clover	FAC
Trisetum cernuum	nodding oat grass	FACU
Vicia sativa	spring vetch	UPL
Vitis californica	California wild grape	FACU
Whipplea modesta	modesty	NL
Woodwardia fimbriata	western chain fern	FACW
Zeltnera muehlenbergii	Muehlenberg's centaury	FACW
 Indicators are abbreviated as follows: OBL: Obligate FACW: Facultative FAC: Facultative FACU: Facultative upland UPL: Upland NL: Not listed 		

Wetland Determination Data Forms



	DATA FORM -	Western Mou	ntains, Valleys, and Coast	Region	
roject/Site: _ Emerald Family Fa	ms City/	County: Hur	mbold+co. Sampling	Date: 81	26/1
pplicant/Owner: StS Comerstone	Developn	rent	State: CA Sampling	Point: TP	111
vestigator(s): Greg O'connelle Cindy u					
andform (hillslope, terrace, etc.):basin				Slope (%)	2
ubregion (LRR): LRP A	Lat: 40.9	429-	Long: -123.6270"		1
oil Map Unit Name: Typic Keroflure	nts-liver	wash ass	ocia Hornwi classification:	none	
re climatic / hydrologic conditions on the site typical for					
re Vegetation, Soil, or Hydrology			Normal Circumstances" present?		10
re Vegetation, Soil, or Hydrology			eded, explain any answers in Rem		
UMMARY OF FINDINGS – Attach site ma					es, etc.
Hydrophytic Vegetation Present? Yes	No				
Hydric Soil Present? Yes	18 Carlos and a second and a se	Is the Sampled within a Wetlan			
	No	Within a Wetlan			
Remarks: Apove average annual	rain fall				
Stake from previous study?					
EGETATION – Use scientific names of pla	ants.				
Free Stratum (Plot size: 30ff)		minant Indicator ecies? Status	Dominance Test worksheet:		
Salix lasiolepis	60	Y FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
2 3			Total Number of Dominant Species Across All Strata:	3	(B)
5 NL	<u> </u>	otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 5ff)	15	Y FACN	Prevalence Index worksheet:		
Rubus armeniacus	<u> </u>	Y FAC	Total % Cover of:	Multiply by:	
		1	OBL species x	1 =	
H			FACW species x		-
5			FAC species x		
5 CI	_20 = T	otal Cover	FACU species X		
Herb Stratum (Plot size: FFF_))	— (B)
2			1		
3.			Prevalence Index = B/A = Hydrophytic Vegetation Indica		-
ø			1 - Rapid Test for Hydrophyl		
/			2 - Dominance Test is >50%	-	
			3 - Prevalence Index is ≤3.0	1	
			4 - Morphological Adaptation	ns ¹ (Provide su	pporting
8			data in Remarks or on a		t)
			5 - Wetland Non-Vascular P Problematic Hydrophytic Ve		ain)
10 11			¹ Indicators of hydric soil and wet be present, unless disturbed or p	land hydrology	
Noody Vine Stratum (Plot size:)	<u>/0</u> =T	otal Cover			
1CX			Hydrophytic		
2			Vegetation	No	
% Bare Ground in Herb Stratum	= T	otal Cover	Present? Yes	NO	
Remarks: Bore from in herb	stratur	~ contai	is lest little 1-	7 Inches	
Hick.		6 1 - 1 - 1	The state of the s		P
S Army Corps of Engineers			Western Mountains, Valleys, ar Pil zometre 25		-1

2

SOIL

,9 1. 1 q

Sampling Point: <u>TPLW</u>

Profile Description: (Describe to the de	off needed to decur	nont the l	ndiantar	an aamfirm	a álan a hannan saff furstfurstrum V
Depth Matrix		x Features		or comm	in the absence of indicators.)
(inches) Color (moist) %	Color (moist)	%	Type	Loc ²	Texture Remarks
1-2" 104R211 100	1 J. A.			1	F
2-8" 104R211 97	54R5/8	3	CS	m	Cobbly = goundwater 12"
8-20" 1042.5/1 100					
water-can't auger	deeper		1		cobbligs _ dpha-clpha dipin
which - curring above a	recper				neaction
					······································
					×
ype: C=Concentration, D=Depletion, RM	A=Reduced Matrix, CS	=Covered	or Coate	d Sand Gr	rains. ² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to al	ll LRRs, unless other	wise note	∋d.)		indicators for Problematic Hydric Solis ³ :
_ Histosol (A1)	Sandy Redox (S	,			2 cm Muck (A10)
_ Histic Epipedon (A2)	Stripped Matrix				Red Parent Material (TF2)
_ Black Histic (A3) _ Hydrogen Sulfide (A4)	Loamy Mucky M Loamy Gleyed N			MLRA 1)	
_ Depleted Below Dark Surface (A11)	Depleted Matrix)		Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Dark Sur				³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark S		7)		wetland hydrology must be present,
_ Sandy Gleyed Matrix (S4)	Redox Depressi	ons (F8)			unless disturbed or problematic.
estrictive Layer (if present):					
Type:					1
Depth (inches):					Hydric Soil Present? Yes No
emarks: Test pit of lowest :	spot in depre	SIDM	. App	itoxim	rte 10' wide basin
Test pit of lowest : TOROLOGY	spot in depre	మ్ రాగా	. App	Mexim	rte 10' wide basin
Test pit of lowest : (DROLOGY Vetland Hydrology Indicators:	r.		. App	iverxim	rte 10' wide basin
Test pit of lowest : 'DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required)	r.		. Арр	inex.im	secondary Indicators (2 or more required)
Test pit of lowest : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1)	r.)			
Test pit of lowest : DROLOGY etiand Hydrology Indicators: <u>imary Indicators (minimum of one require</u> Surface Water (A1) High Water Table (A2)	ed: check all that apply Water-Stair MLRA 1) ned Leave	es (B9) (ex		Secondary Indicators (2 or more required)
Test pit of lowest : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	ed: check all that apply Water-Stair MLRA 1 Salt Crust () ned Leave I, 2, 4A, a B11)	es (B9) (ex nd 4B)		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ed; check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo) ned Leave , 2, 4A, a B11) ertebrates	es (B9) (ex n d 4B) s (B13)		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one requires Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invi Hydrogen S) ned Leave I, 2, 4A, a B11) ertebrates Sulfide Od	es (B9) (ex nd 4B) s (B13) or (C1)	cept	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ed; check all that apply Water-Stain MLRA 1 Salt Crust (Aquatic Invi Hydrogen S Oxidized Ri) ned Leave I, 2, 4A, a B11) ertebrates Sulfide Od hizosphere	es (B9) (ex nd 4B) s (B13) or (C1) es along L	ccept 	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) ✓ Geomorphic Position (D2)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized RI Presence o	ned Leave I, 2, 4A, a B11) ertebrates Sulfide Od hizosphen f Reduce d	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4)	iving Roo	 <u>Secondary Indicators (2 or more required)</u> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Inv. Hydrogen S Oxidized RI Presence o Recent Iron	ned Leave , 2, 4A, a B11) ertebrates Sulfide Od hizosphen f Reduced n Reductio	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled	ccept Living Roo) Soils (C6	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	ed: check all that apply Water-Stain MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S	ned Leave , 2, 4A, a B11) ertebrates Sulfide Od hizospher f Reduced n Reductio Stressed f	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1	ccept Living Roo) Soils (C6	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B	ed: check all that apply Water-Stain MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S 37) ✓ Other (Expl	ned Leave , 2, 4A, a B11) ertebrates Sulfide Od hizospher f Reduced n Reductio Stressed f	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1	ccept Living Roo) Soils (C6	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Test pit of lowst : DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one requires Surface Water (A1) High Water Table (A2) Squration (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (ed: check all that apply Water-Stain MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized Ri Presence o Recent Iron Stunted or S 37) ✓ Other (Expl	ned Leave , 2, 4A, a B11) ertebrates Sulfide Od hizospher f Reduced n Reductio Stressed f	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1	ccept Living Roo) Soils (C6	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Test pit of lowst : Test pit	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or 3 Stunted or 3 37) ✓ Other (Expl (B8)	hed Leave 1, 2, 4A, a B11) ertebrates Sulfide Od hizosphen f Reducero n Reductio Stressed F lain in Rer hes):	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks)	ccept Living Roo) Soils (C6	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Test pit of lowst : Test pit	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or 3 Stunted or 3 37) ✓ Other (Expl (B8)	hed Leave 1, 2, 4A, a B11) ertebrates Sulfide Od hizosphen f Reducero n Reductio Stressed F lain in Rer hes):	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks)	ccept Living Roo) Soils (C6	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Test pit of lowst : Test pit of lowst : Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Deficiency of lowst : Test pit of lowst : Test pi	ed: check all that apply Water-Stain MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized Rt Presence o Recent Iron Stunted or S Stunted or S Other (Expl (B8) No Depth (incl No Depth (incl	hed Leave , 2, 4A, a B11) ertebrates Sulfide Od hizospher f Reduce to n Reductio Stressed f lain in Rer hes): hes):	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks)	ccept iving Roo) Soils (C6) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Test pit of lowst : Test pit of lowst : Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Dift Observations: Inface Water Present? Yes ater Table Present? Yes Ituration Present Pre	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Stunted or S Other (Expl (B8) No Depth (incl No Depth (incl	hed Leave 1, 2, 4A, a B11) ertebrates Sulfide Od hizosphen f Reducer n Reductio Stressed R lain in Rer hes): hes):	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks) 12/1	Living Roo) Soils (C6) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Test pit of lowst: 'DROLOGY 'etland Hydrology Indicators: timary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (eid Observations: urface Water Present? Yes atter Table Present? Yes attration Present? Yes attration Present?	ed: check all that apply Water-Stair MLRA 1 Salt Crust (Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Stunted or S Other (Expl (B8) No Depth (incl No Depth (incl	hed Leave 1, 2, 4A, a B11) ertebrates Sulfide Od hizosphen f Reducer n Reductio Stressed R lain in Rer hes): hes):	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks) 12/1	Living Roo) Soils (C6) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Test pit of lowst Image: Arrow of the second of t	ad: check all that apply 	hed Leave a Leave b a b c c b c c c c c c c c c c	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks) 12/1	Living Roo) Soils (C6) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Test pit of lowst : Test pit of lowst : Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (eid Observations: Unface Water Present? Yes atter Table Present? Yes atter Table Present? Yes atter Table Present? Yes atter Table Recorded Data (stream gauge, me Emarks: Water Stailes on settings	ad: check all that apply	b) hed Leave J , 2 , 4A , a B11) ertebrates Sulfide Od hizosphen f Reducer n Reductio Stressed R lain in Rer hes): hes): hotos, pre	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks) 12/11 evious insp	Living Roo) Soils (C6) (LRR A) (LRR A) Wetla sections),	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Test pit of lowst Test pit of lowst Imax Indicators (minimum of one requires Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (end Observations: Inface Water Present? Yes Aiter Table Present? Yes Setting Present?<	ad: check all that apply	b) hed Leave J , 2 , 4A , a B11) ertebrates Sulfide Od hizosphen f Reducer n Reductio Stressed R lain in Rer hes): hes): hotos, pre	es (B9) (ex nd 4B) s (B13) or (C1) es along L d Iron (C4) on in Tilled Plants (D1 marks) 12/11 evious insp	Living Roo) Soils (C6) (LRR A) (LRR A) Wetla sections),	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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WETLAND DETERMINATION DA		Western Mour	ntains, Valleys, and Coast Regio	n
Project/Site: Emerald Family Far	ms city/	county: Hun	n bold + co. Sampling Date:	8/26/16
Applicant/Owner: StS Comerstone D				
Investigator(s): Greg O'connelle Cindy Wi				
Landform (hillslope, terrace, etc.):hill slove				
			Long: -123.6270 Datur	
Soil Map Unit Name: Typic Xerofluvents-	Piver sas	h accordia t	In Null close faction non	
Are climatic / hydrologic conditions on the site typical for this				
		esNo	Vormal Circumstances" present? Yes	14.
Are Vegetation, Soil, or Hydrology s				
Are Vegetation, Soil, or Hydrology n			eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map		npling point lo	ocations, transects, important fea	atures, etc.
Hydrophytic Vegetation Present? Yes N		is the Sampled	Area	,
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N		within a Wetlan		
Remarks: Manuel autorade and a				
& bern dozed pile 7 5yrs.	Onhillslo	or a bove .	TP1W on rutbank	
VEGETATION – Use scientific names of plan				
Tree Stratum (Plot size: 30)	Absolute Don % Cover Spe	ninant Indicator	Dominance Test worksheet:	
1. Solix losislepis	35 \	PACW.	Number of Dominant Species That Are OBL, FACW, or FAC:3	(A)
2			Total Number of Dominant	
3			Species Across All Strata:	(B)
4			Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:)	<u></u> = To	tal Cover	That Are OBL, FACW, or FAC:	5% (A/B)
1. Salix lasio apis	20 Y	FACU	Prevalence Index worksheet:	14
2. Baccharis pilulores	5 A		Total % Cover of:Multiply	y by:
3. Cytim scorius	5 1	J NL	OBL species x 1 =	
4			FACW species x 2 =	
5			FAC species x 3 = FACU species x 4 =	
Harth Stratum (Distainer	50 = To	tal Cover	UPL species x 5 =	
Herb Stratum (Plot size:)	15 Y	NL	Column Totals: (A)	
2. Holeus lonatus	5 1	FAC		
3.			Prevalence Index = B/A = Hydrophytic Vegetation Indicators:	
4			1 - Rapid Test for Hydrophytic Vegeta	ation
5			2 - Dominance Test is >50%	
6			3 - Prevalence Index is ≤3.0 ¹	
7	· ·		4 - Morphological Adaptations ¹ (Provi	ide supporting
8			data in Remarks or on a separate	sheet)
9			5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹	(Evaloia)
10	• •		¹ Indicators of hydric soil and wetland hydr	
11	20 = To		be present, unless disturbed or problema	tic.
Woody Vine Stratum (Plot size:)	=10	tai Covei		
1			Hydrophytic	
2			Vegetation	
% Bare Ground in Herb Stratum	= To	tal Cover	Present? Yes V No	
	, 1 1			
Remarks: lef litter 1-2 inches	thick			

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SUIL	S	0	Î	L
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TOTIL

1

SOIL			Sampling Point: <u>IF + 4</u>
Profile Description: (Describ	e to the depth n	eeded to document the indicator or co	onfirm the absence of indicators.)
Depth Matrix		Redox Features	
(inches) Color (moist)	%(Color (moist)%Type ¹ . Lo	
05"			Surface dutt
,5"-24" 104R3/1			gravelly sand W/ cobbles
		1. A. A.	· · · · · · · · · · · · · · · · · · ·
······			
		uced Matrix, CS=Covered or Coated Sa	
Hydric Soil Indicators: (Appl			Indicators for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2) Black Histic (A3)		Stripped Matrix (S6)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) (except ML! Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surfa		Depleted Matrix (F3)	Other (Explain in Remarks)
Thick Dark Surface (A12)	· · ·	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):			
Туре:			
Depth (inches):	oded		Hydric Soil Present? Yes No
YDROLOGY			
Netland Hydrology Indicators			
Primary Indicators (minimum of		ack all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)		Water-Stained Leaves (B9) (excep	
High Water Table (A2)		MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)		Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)		Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9
Drift Deposits (B3)		Oxidized Rhizospheres along Living	
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soi	is (C6) FAC-Neutral Test (D5) NO (n1+ 7 50
Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (L	RR A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aeria		Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Conca	ve Surface (B8)		
field Observations:			
	Yes No _		
	Yes No _		
includes capillary fringe)	Yes No		Wetland Hydrology Present? Yes No
Describe Recorded Data (streat	n gauge, monitor	ing well, aerial photos, previous inspecti	ons), it available:
Remarks:			1

2

WETLAND DETERMINATION DA		Nestern Moun	tains, Valleys, and Coast Region
Project/Site: _ Emerald Family Far	ms City/C	ounty: Hun	n bold + co. Sampling Date: 8/26/16
Applicant/Owner: StS Comerstone D			
Investigator(s): Greg O'con nelle Cindy wi			
Landform (hillslope, terrace, etc.):	CHERRY MILLING		onvex, none): CONCANE Slope (%): 2-5%
Subregion (LRR):			Long: -123.6270" Datum: Humbolds
Soil Map Unit Name: Typic Verofluvents-	Riverwash	associa tion	NWI classification:
Are climatic / hydrologic conditions on the site typical for this	time of year? Y		
Are Vegetation, Soil, or Hydrologys	ignificantly distur	bed? N Are "N	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n	aturally problema	atic? N (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing sam	pling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	o		
	° (Is the Sampled A within a Wetland	
Remarks: Append average annual r Area Append > Syrs ago.	un fall	Atypical	soil texture. Source from another
VEGETATION – Use scientific names of plan			Device Texture laborst
Tree Stratum (Plot size: <u>30'</u>)	Absolute Don <u>% Cover</u> Spe	ninant Indicator	Dominance Test worksheet: Number of Dominant Species
1. Solix assolepis	50	FACW	That Are OBL, FACW, or FAC: (A)
2. Selix lassiendra	20	FACIN	Total Number of Dominant
3			Species Across All Strata: (B)
4	70 = To	tal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
Sapling/Shrub Stratum (Plot size: 5)			Prevalence Index worksheet:
1. Kubus armeniacus	35	- HAC	Total % Cover of: Multiply by:
2. Salix losiblepis	. 10	- tacm	OBL species x 1 =
4	• • • • • • • • • • • • • • • • • • • •		FACW species x 2 =
5			FAC species x 3 =
	45 = To	tal Cover	FACU species x 4 = UPL species x 5 =
Herb Stratum (Plot size:)			Column Totals: (A) (B)
2.	· · · · · · · · · · · · · · · · · · ·		
3			Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 ¹
7			✓ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8 9	(; 		5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			¹ Indicators of hydric soil and wetland hydrology must
	= To	tal Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
2.			Hydrophytic Vegetation
100	= To	tal Cover	Present? Yes No
% Bare Ground in Herb Stratum			
Remarks: 1-2 inch loger of	lect	littler. H	Adventions posts on Willows.

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Profile Desci	ription: (Describe	to the dept	h needed to docur	ment the i	indicator	or confirm	the absence	e of indicators.)	
Depth	Matrix			x Features					
(inches)	IDYR 2/1		Color (moist)		Type	_ Loc ²	Texture	and the second sec	emarks
0-6"	2.54R 2/1	90	54R516 1170514	10	<u>cs</u>	MIPL	SiL	evganic voor1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
			5-2					2hur 5-2	Cib
	La				·			410L 2	
							F8 =	Horizon 1 1	UYR 2/1-> 54
				(C)				DKue - 2	<u>-</u>
								05/6-21	1 - 3/5
								prominer	nt
Type: C=Co	ncentration, D=Dep	pletion, RM=F	Reduced Matrix, CS	S=Covered	or Coate	ed Sand Gra	ains. ² Lo	cation: PL=Pore L	ining, M=Matrix.
lydric Soil Ir	ndicators: (Applic	able to all L	RRs, unless other	rwise note	ed.)			ors for Problemat	
Histosol (. ,	_	Sandy Redox (S	S5)			2 c	m Muck (A10)	
	ipedon (A2)	-	Stripped Matrix	(S6)				d Parent Material (TF2)
Black His		-	Loamy Mucky N	Aineral (F1) (except	MLRA 1)		ry Shallow Dark Su	
	n Sulfide (A4)	_	Loamy Gleyed I)			ner (Explain in Ren	
	Below Dark Surfac		Depleted Matrix						
	rk Surface (A12)	_	Redox Dark Su				³ Indicate	ors of hydrophytic	vegetation and
	ucky Mineral (S1)	-	Depleted Dark		7)		wetla	and hydrology mus	t be present,
	eyed Matrix (S4)	<u> </u>	Redox Depress	ions (F8)			unles	ss disturbed or pro	blematic.
estrictive L	ayer (if present):						1		
							1		
Туре:			- 100						
Type: Depth (incl	nes):						Hydric Soi	I Present? Yes	No
Type: Depth (inch Remarks:	1						Hydric Soi	I Present? Yes	<u>No</u>
Type: Depth (inch Remarks:	1					L	Hydric Soi	I Present? Yes	<u>No</u>
Type: Depth (inch Remarks: YDROLOG	1			ALL			Hydric Soi	I Present? Yes	<u>No</u>
Type: Depth (inch Remarks: YDROLOG	GY		-						
Type: Depth (incr Remarks: YDROLOG Vetland Hydr Irimary Indica	SY rology Indicators:		check all that apply	γ)	as (B9) (e	xcent	Seco	ndary Indicators (2	2 or more required)
Type: Depth (inct Remarks: YDROLOG Vetland Hydr Inimary Indica Surface W	GY rology Indicators: ators (minimum of o Vater (A1)		<u>check all that apply</u> Water-Stai	y) ned Leave		xcept	Seco	ndary Indicators (2 Nater-Stained Lea	2 or more required)
Type: Depth (incr Remarks: YDROLOG Vetland Hydr rimary Indica Surface V High Wate	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2)		<u>check all that apply</u> Water-Stai MLRA	v) ned Leave 1, 2, 4A, a		xcept	<u>Seco</u> V	ndary Indicators (2 Nater-Stained Lea 4A, and 4B)	2 or more required) ves (B9) (MLRA 1, 2,
Type: Depth (incr Remarks: YDROLOG Vetland Hydr Primary Indica Surface V High Wate Saturation	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3)		<u>check all that apply</u> Water-Stai Salt Crust	v) ned Leave 1, 2, 4A, a (B11)	nd 4B)	xcept	<u>Seco</u> V C	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns	<u>2 or more required)</u> ves (B9) (MLRA 1, 2, (B10)
Type: Depth (incr Remarks: YDROLOG Vetland Hydr Inimary Indica Surface V High Wate Saturation Water Ma	SY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1)		<u>check all that apply</u> Water-Stai Salt Crust Salt Crust	v) ned Leave 1, 2, 4A, a (B11) vertebrates	nd 4B) s (B13)	xcept	<u>Seco</u> V C	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water	<u>2 or more required)</u> ves (B9) (MLRA 1, 2, (B10) Table (C2)
Type: Depth (incl Remarks: TDROLOG Vetland Hydu rimary Indica Surface V Vetland Hydu rimary Indica Surface V Vetland Hydu Timary Indica	SY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2)		<u>check all that apply</u> <u>Water-Stai</u> <u>MLRA</u> <u>Sait Crust</u> <u>Aquatic Inv</u> <u>Hydrogen</u>	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od	nd 4B) s (B13) lor (C1)	-	<u>Seco</u> V C C	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible o	<u>2 or more required)</u> ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9)
Type: Depth (incl Remarks:	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3)		check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher	nd 4B) s (B13) lor (C1) res along	Living Root	<u>Seco</u> V C C	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water	<u>2 or more required)</u> ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9)
Type: Depth (incl Remarks:	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		<u>check all that apply</u> Water-Stai Salt Crust Salt Crust Aquatic Inv Hydrogen S ✓ Oxidized R ✓ Presence of	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reduced	nd 4B) s (B13) lor (C1) res along d Iron (C4	Living Root	<u>Seco</u> V □ S S (C3)S	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3)
Type: Depth (incl Remarks: CPROLOG Vetland Hydr rimary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) ssits (B5)		check all that apply Water-Stai Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence of Recent Iron	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od chizospher of Reduced n Reductio	nd 4B) s (B13) lor (C1) es along d Iron (C4 on in Tilled	Living Root) d Soils (C6)	<u>Seco</u> V □ □ ss (C3) <u></u> S	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) D3)
Type: Depth (incr Remarks: //DROLOG //etland Hydu rimary Indica Surface V High Wate Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	Context (Context) SY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) at (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) usits (B5) soil Cracks (B6)	<u>ne required;</u>	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Stunted or	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od chizospher of Reduced n Reductio	nd 4B) s (B13) lor (C1) es along d Iron (C4 on in Tilled	Living Root) d Soils (C6)	<u>Seco</u> V C S (C3)S	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5)
Type: Depth (incr Remarks: YDROLOG Vetland Hydr Trimary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	Trology Indicators: ators (minimum of o Vater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) usits (B5) coil Cracks (B6) h Visible on Aerial In	<u>ne required;</u> magery (B7)	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence c Recent Iron Stunted or Other (Exp	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od chizospher of Reduced n Reductio Stressed (nd 4B) s (B13) lor (C1) res along d Iron (C4 on in Tilleo Plants (D	Living Root) d Soils (C6)	<u>Seco</u> V C S S (C3) ∠ S F F	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A)
Type: Depth (incr Remarks: YDROLOG Yetland Hydr Timary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V	Context (Context) SY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) a (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) roil Cracks (B6) a Visible on Aerial In Vegetated Concave	<u>ne required;</u> magery (B7)	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence c Recent Iron Stunted or Other (Exp	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od chizospher of Reduced n Reductio Stressed (nd 4B) s (B13) lor (C1) res along d Iron (C4 on in Tilleo Plants (D	Living Root) d Soils (C6)	<u>Seco</u> V C S S (C3) ∠ S F F	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A)
Type: Depth (incr Remarks: //DROLOG //etland Hydu rimary Indica Surface V High Wate Saturation Vater Ma Sediment Nater Ma Sediment Nater Ma Sediment Nater Ma Surface S Iron Depo Surface S Nater Ma	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5) foil Cracks (B6) n Visible on Aerial In Vegetated Concave ations:	ne required; magery (B7) e Surface (B8	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence co Recent Iron Stunted or Other (Exp 3)	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od chizospher of Reduced n Reductio Stressed (nd 4B) s (B13) lor (C1) res along d Iron (C4 on in Tilleo Plants (D	Living Root) d Soils (C6)	<u>Seco</u> V C S S (C3) ∠ S F F	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A)
Type: Depth (incl Remarks: TDROLOG Vetland Hydu Timary Indica Surface V Vetland Hydu Timary Indica Surface V Vetland Hydu Timary Indica Surface V Vetland Hydu Timary Indica Surface S Inundation Sparsely V ieid Observation	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5) foil Cracks (B6) n Visible on Aerial In Vegetated Concave ations:	<u>ne required;</u> magery (B7)	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence co Recent Iron Stunted or Other (Exp 3)	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reduced n Reductio Stressed I stressed I lain in Rer	nd 4B) s (B13) lor (C1) res along d Iron (C4 on in Tilleo Plants (D	Living Root) d Soils (C6)	<u>Seco</u> V C S S (C3) ∠ S F F	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A)
Type: Depth (incl Remarks: YDROLOG Vetland Hydr Primary Indica Surface W High Wate Saturation Vater Ma Sediment Nater Ma Sediment Nater Ma Sediment Nater Ma Saturation Nater Ma Saturation Saturation Sediment Nater Mater Saturation Saturation Saturation Sparsely V ieid Observa	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial In Vegetated Concave ations: Present? Ye	ne required; magery (B7) e Surface (B8	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence of Recent Iron Stunted or Other (Exp 3)	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reducer n Reductio Stressed I stressed I stressed I stressed I stressed I stressed I	nd 4B) s (B13) lor (C1) res along d Iron (C4 on in Tilleo Plants (D	Living Root) d Soils (C6)	<u>Seco</u> V C S S (C3) ∠ S F F	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A)
Type: Depth (incr Remarks: YDROLOG Vetland Hydr Primary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial In Vegetated Concave ations: Present? Ye sent? Ye	magery (B7) Surface (B8 es No	check all that apply	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od chizospher of Reduced n Reductio Stressed I clain in Rer ches): ches):	nd 4B) s (B13) lor (C1) res along d Iron (C4 on in Tilleo Plants (D	Living Root) d Soils (C6) 1) (LRR A)	<u>Seco</u> V C C S S F F F	ndary Indicators (2 Nater-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A) nocks (D7)
Type: Depth (incl Remarks: YDROLOG Vetland Hydr Primary Indica Surface W Saturation Vater Ma Sediment Vater Ma Sediment Naturation Sediment Naturation Sparsely V ieid Observa urface Water Vater Table P aturation Pre ncludes capil	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) soil Cracks (B6) n Visible on Aerial In Vegetated Concave ations: Present? Ye sent? Ye	magery (B7) Surface (B8 es No es No es No	check all that apply Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence of Recent Iron Stunted or Other (Exp Depth (inc Depth (inc Depth (inc	y) ned Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od thizospher of Reduced n Reductio Stressed I lain in Rer ches): ches): ches):	nd 4B) s (B13) lor (C1) es along d Iron (C4 on in Tilled Plants (D marks)	Living Root) d Soils (C6) 1) (LRR A) 	<u>Seco</u> V C C S F F F F	ndary Indicators (2 Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Positio Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	2 or more required) ves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) on (D2) O3) D5) s (D6) (LRR A) nocks (D7)

Tested positive to alpha - alpha dipyridy solution

US Army Corps of Engineers

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Western Mountains, Valleys, and Coast - Version 2.0

WETLAND DETERMINATION DA	TA FORM -	Western Mour	ntains, Valleys, and Coast Region
Project/Site: _ Emerald Family Fav	ms City/	County: Hur	mbold+co, Sampling Date: 8/26/16
Applicant/Owner: StS Comersione D			State: CA Sampling Point: TP2 U
Investigator(s): Greg O'connelle Cindy WI			Constitution of the second sec
			convex, none): Convex Slope (%):
Subregion (LRR):			Long: -123.6270" Datum: Humbola
Soil Map Unit Name: Typic Kerofluxen			
Are climatic / hydrologic conditions on the site typical for thi			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sai	mpling point ic	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N		Is the Sampled	Area /
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N		within a Wetlan	1
		O Lilal	
Atypical amount of cley in t	cx here	Branktin	of above 9 P2W on cut pank.
/EGETATION – Use scientific names of plan		Grught	require and mer source.
20		minant Indicator	Dominance Test worksheet:
1. Selix losiolepis	<u>% Cover</u> Sp	ecies? <u>Status</u>	Number of Dominant Species 2
Salix Jusi Diepis	- 40 -	1 INCO	That Are OBL, FACW, or FAC: (A)
3			Total Number of Dominant Species Across All Strata:
4.			
6	40 =T	otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
Sapling/Shrub Stratum (Plot size:)	45	V EAA	Prevalence Index worksheet:
1. Kubias acmeniocus 2. Solix Josiolepis		V EACH	Total % Cover of: Multiply by:
3.		TAG	OBL species x 1 =
4.	*		FACW species x 2 =
5			FAC species x 3 =
5	60 =T	otal Cover	FACU species x 4 =
Herb Stratum (Plot size:)			UPL species x 5 = Column Totals: (A) (B)
			Column Totals: (A) (B)
3			Prevalence Index = B/A =
4			Hydrophytic Vegetation Indicators:
5			Papid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
6			3 - Prevalence Index is $\leq 3.0^{1}$
7			4 - Morphological Adaptations ¹ (Provide supporting
8			data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11	and the second		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	= To	otal Cover	
1			Hydrophytic
2			Vegetation
100	= To	otal Cover	Present? Yes V No
% Bare Ground in Herb Stratum 00	1		2
Remarks. 11-2 Incl leaf lite	fer	10	

		୍ୟ			12			
SOIL								Sampling Point: 1P20
Profile Desc	ription: (Describ	e to the dep	th needed to doc	ument the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix			dox Feature	5			
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc2	Texture	Remarks
0-24"	2.54 3/2	99	2,57 6/4	_ (<u> </u>	M	SIL	Lewing transition zone
								(1
). 			
Type: C=Co	ncentration, D=De	pletion. RM=	Reduced Matrix	CS=Covered	d or Coate	d Sand Gra	ains ² l o	ocation: PL=Pore Lining, M=Matrix.
	ndicators: (Appli					d ound one		ors for Problematic Hydric Soils ³ :
Histosol ((A1)		Sandy Redox	(S5)	,			m Muck (A10)
	ipedon (A2)		Stripped Matr					d Parent Material (TF2)
Black His	stic (A3)		Loamy Mucky	/ Mineral (F1	l) (except	MLRA 1)		ry Shallow Dark Surface.(TF12)
Hydroger	n Sulfide (A4)		Loamy Gleye	d Matrix (F2)			ner (Explain in Remarks)
	Below Dark Surfa	ce (A11)	Depleted Mat					Animal grant
	rk Surface (A12)		Redox Dark S				³ Indicat	ors of hydrophytic vegetation and
	ucky Mineral (S1)		Depleted Dar		7)			and hydrology must be present,
	eyed Matrix (S4)		Redox Depre	ssions (F8)			unle	ss disturbed or problematic.
	ayer (if present):							
Туре:				×.				/
Depth (incl							Hydric Soi	il Present? Yes No
Remarks:	tposed bo	nk ak	DING TR	2W				
E	FPUSCA PO	inc yo						
HYDROLOG	θY							
Wetland Hyd	rology Indicators	:						
	ators (minimum of		check all that an	nlv)			Seco	andary Indicators (2 or more required)
	Vater (A1)			tained Leave	as (B0) (a	voont		Water-Stained Leaves (B9) (MLRA 1, 2,
	er Table (A2)			A 1, 2, 4A, a		vcehr	20	
Saturation	()		Salt Crus		inu 46)		,	4A, and 4B)
Water Ma				Invertebrate	n (P12)			Drainage Patterns (B10)
	Deposits (B2)			n Sulfide Oc				Dry-Season Water Table (C2)
Drift Depo					• •	Christen Danet		Saturation Visible on Aerial Imagery (C9)
	or Crust (B4)			l Rhizospher	-	•		Geomorphic Position (D2)
Iron Depc	. ,			e of Reduce	`	,		Shallow Aquitard (D3)
	Soil Cracks (B6)			ron Reductio		. ,		FAC-Neutral Test (D5)
	n Visible on Aerial	magazy (P7		or Stressed		1) (LRR A)		Raised Ant Mounds (D6) (LRR A)
	Vegetated Concav		(xplain in Re	marks)		'	Frost-Heave Hummocks (D7)
		ve Sunace (E	0)					
Field Observa	_	Van						
Surface Water		Yes N		inches):				
Water Table P				inches):				1
Saturation Pre (includes capil	llary fringe)			inches):				gy Present? Yes No
Describe K6C	orded Data (strear	n gauge, moi	moring well, aeria	u priotos, pre	evious ins	pections), i	r avallable:	repaired and a start of a start of

Remarks:

			untains, Valleys, and Coast Region
roject/Site: _ Emerald Family Fa	rms	City/County:	mbold + co. Sampling Date: 8/26/16
plicant/Owner: StS Comerstone	Develo	oment	State: CA Sampling Point: TP3W
restigator(s): Greg O'connelle Cindy u	licac	Section Townshin Ra	ange 5.20+33 TTN 05E
odform (hillslope terrace etc.): A 1/4 in Add	10-00	Local relief (concave	convex, none): _Concave Slope (%): _0-7
bregion (LRR): LKP A			Long: -123.6270° Datum: Humbo
I Map Unit Name: Typic Keroflure	ents- PIL	verturesh nes	Cong. Cong Dataming
climatic / hydrologic conditions on the site typical for t			
			"Normal Circumstances" present? Yes No
• Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.)
JMMARY OF FINDINGS – Attach site map	p showing	sampling point	locations, transects, important features, etc
lydrophytic Vegetation Present? Yes	No		
ydric Soil Present? Yes		Is the Sampleo within a Wetla	
Vetland Hydrology Present? Yes			
emarks: Apowe average annual	rain fal	11	
GETATION – Use scientific names of pla	unte		
	Absolute	Dominant Indicator	Dominance Test worksheet:
ee Stratum (Plot size: 35 /)		Species? Status	Number of Dominant Species
Populus tribecarpa (bokomitero)	- 25	Y FAC,	• That Are OBL, FACW, or FAC: (A)
Jalix asiolegis	_ 35	Y FAGW	Total Number of Dominant
			Species Across All Strata:
	60		Percent of Dominant Species
pling/Shrub Stratum (Plot size: 5)	60	= Total Cover	That Are OBL, FACW, or FAC:(δO (A/B)
salix asidepis 5	20	Y FACW	
rubus armieniacus	15	Y FAC.	Total % Cover of: Multiply by:
		·	OBL species x1 =
and the second			FACW species x 2 = FAC species x 3 =
			FACU species x 4 =
erb Stratum (Plot size: 5)	35	= Total Cover	UPL species x5 =
inner a cfinia	5	V FACW	Column Totals: (A) (B)
Juicas ettosis			
			Prevalence Index = B/A =
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
			$_$ 3 - Prevalence Index is $\leq 3.0^{1}$
			4 - Morphological Adaptations ¹ (Provide supporting
			data in Remarks or on a separate sheet)
			5 - Wetland Non-Vascular Plants
-			Problematic Hydrophytic Vegetation ¹ (Explain)
5 a			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
ody Vine Stratum (Plot size:)	2	= Total Cover	
Dody vine Stratum (Plot size:			Hydrophytic
			nyuropiiyuc
			Vegetation
Bare Ground in Herb Stratum96		= Total Cover	Vegetation Present? Yes No

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TPALI

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Profile Description: (Describe to the d	epth needed to document the indicator or confirm	n the absence of indicators.)
Depth Matrix	Redox Features	
$\frac{\text{(inches)}}{O-M''} \xrightarrow{\text{Color (moist)}} \frac{\%}{OO}$	Color (moist)%Type ¹ Loc ²	Arwelly LS
4-12 2.54 1/1 90	2.54 4/8 10 45 m	gravelly is slight increase in
IT believe		
		- moisture 212
		Shoe= Ø
		Dvalue - 1 prominent
		$\triangle chr = 7$
Type: C=Concentration D=Depletion R	M=Reduced Matrix, CS=Covered or Coated Sand G	rains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to a		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):	Redox Depressions (F8)	unless disturbed or problematic.
Type:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks: berm down stream block		
HYDROLOGY	<u> </u>	
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one requi	red: check all that apoly)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (except	becondary indicators (2 or more required)
High Water Table (A2)		Mater Stained Leaves (R0) (ML PA 1 2
		Water-Stained Leaves (B9) (MLRA 1, 2,
Saturation (A3)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	4A, and 4B) Drainage Patterns (B10)
Water Marks (B1)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Water Marks (B1) Sediment Deposits (B2)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc	 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ↓ Geomorphic Position (D2) Shallow Aquitard (D3)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ↓ Geomorphic Position (D2) ↓ Shallow Aquitard (D3) ↓ FAC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ↓ Geomorphic Position (D2) ↓ Shallow Aquitard (D3) ↓ FAC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations:	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Yes Saturation Present? Yes	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): No Mathematical Stressed	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) (B7) Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): No Mathematical Stressed	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) 6) ✓ FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	MLRA 1, 2, 4A, and 4B)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) 6) ✓ FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	MLRA 1, 2, 4A, and 4B)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) ✓ Geomorphic Position (D2) Shallow Aquitard (D3) 6) ✓ FAC-Neutral Test (D5)) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Vater Marks (B1) Vater Marks (B1) Vater Marks (B1) Vater Deposits (B2) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, Remarks:	MLRA 1, 2, 4A, and 4B)	4A, and 4B)

a

US Army Corps of Engineers

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			ntains, Valleys, and Coast Region
Project/Site: Emerald Family Fa	rms City	County: Hur	state: CA Sampling Date: 9/1/16 State: CA Sampling Point: TP3U
Applicant/Owner: StS Comerstone	Developm	nent	State: CA Sampling Point: TP3U
Investigator(s): Greg O'connelle Cindy u	Vilcac Sect	ion. Township, Rar	100:5.20133 TTN RSE
Landform (hillslope, terrace, etc.): drainand b			
			Long: -123.6270" Datum: Humbold
Soil Map Unit Name: Typic Xerofluven	K-RIVEYWA	sh associa	LTION NW/ classification NODE
Are climatic / hydrologic conditions on the site typical for t			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology			eded, explain any answers in Remarks.)
		mpling point lo	ocations, transects, important features, etc.
	No	is the Sampled	Area
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No V	within a Wetlan	
Remarks: Aport average annual	NO Call	1	
Aper working anwar	ruin fall.		
VEGETATION – Use scientific names of pla	ants.		
2~1	AND AND THE APPLY AND	minant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		ecies? <u>Status</u>	Number of Dominant Species
1 Salyx lasiole pris		Y FACW	That Are OBL, FACW, or FAC: (A)
3.			Total Number of Dominant
4			Species Across All Strata: (B)
T	= Ţ	otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:
1. Rubus prmeniacus	_ 60	FAC	Total % Cover of: Multiply by:
2. Salyt lastolepis		N FACW	OBL species x1 =
3			FACW species x 2 =
4			FAC species x 3 =
	- 10 = 1	otal Cover	FACU species x 4 =
Herb Stratum (Plot size: 5			UPL species x 5 =
1. Cyperus era glostis	5	Y FACW	Column Totals: (A) (B)
2. Agrustis exarata	<u></u> _	Y FACW	Prevalence index = B/A =
3	<u> </u>		Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 ¹
7			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			¹ Indicators of hydric soil and wetland hydrology must
	<u>[D</u> = T	otal Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1			Hydrophytic Vegetation
2		intal Cover	Present? Yes <u>No</u> No
% Bare Ground in Herb Stratum90	= T	otal Cover	
Remarks: a lot of leaf debris & de	ad Risburg	scane litter	1
U U U U U U U U U U U U U U U U U U U			

S	OI	L

Sampling Point: TP34

Depth	Matrix		Red	ox Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_ Loc ²	Texture	Remarks
0-6	2.5433	100	1048.8/8	41	ĽS	m	LS	roots, Redox color in Knotou
6-24	2.543/2	8D					LS	on ruots
	10.54R-43	20						
¹ Type: C=Co	oncentration, D=Dep	letion, RM	Reduced Matrix, C	S=Covered	d or Coate	d Sand Gr	rains. ² Lo	cation: PL=Pore Lining, M=Matrix.
		able to all	LRRs, unless othe	rwise not	ed.)		indicat	ors for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (2 c	m Muck (A10)
	ipedon (A2)		Stripped Matrix					d Parent Material (TF2)
Black His			Loamy Mucky		• •	MLRA 1)		ry Shallow Dark Surface.(TF12)
	n Sulfide (A4)	(Loamy Gleyed	•)		Oth	ner (Explain in-Remarks)
	Below Dark Surfac	e (A11)	Depleted Matri	. ,			2	
	rk Surface (A12)		- Redox Dark Su	. ,				tors of hydrophytic vegetation and
	ucky Mineral (S1)		Depleted Dark		•7)			and hydrology must be present,
	leyed Matrix (S4)		Redox Depress	sions (F8)	24		unle	ss disturbed or problematic.
	ayer (if present):						Į.	
Туре:								/
	hes):						Hydric Soi	il Present? Yes No
Remarks:							4	
YDROLOG								
	rology Indicators:							
Primary Indica	ators (minimum of o	ne required	i; check all that app	v)			Seco	andary Indicators (2 or more required)
Surface \	Water (A1)		Water-Sta	ined Leave	es (B9) (e	cept		Water-Stained Leaves (B9) (MLRA 1, 2,
High Wat	er Table (A2)			1, 2, 4A, a		•		4A, and 4B)
Saturatio			Salt Crust		,		ſ	Drainage Patterns (B10)
	arks (B1)		Aquatic In	· · ·	s (B13)			Dry-Season Water Table (C2)

- ____ Saturation Visible on Aerial Imagery (C9) ___ Oxidized Rhizospheres along Living Roots (C3) ___ Geomorphic Position (D2)
 - Shallow Aquitard (D3)
 - FAC-Neutral Test (D5)
 - ____ Raised Ant Mounds (D6) (LRR A)
 - ____ Frost-Heave Hummocks (D7)

____ Inundation Visible on Aerial Imagery (B7) ____ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? No Depth (inches): Yes Water Table Present? Yes No Depth (inches): Saturation Present? __ Depth (inches): Wetland Hydrology Present? Yes Yes No No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

____ Presence of Reduced Iron (C4)

____ Recent Iron Reduction in Tilled Soils (C6)

____ Stunted or Stressed Plants (D1) (LRR A)

___ Drift Deposits (B3)

___ Iron Deposits (B5)

_

____ Algal Mat or Crust (B4)

_ Surface Soil Cracks (B6)

Western Mountains, Valleys, and Coast - Version 2.0

WETLAND DETERMINATION DA		V – Western Mou	ntains, Valleys, and Coast Region
Project/Site: Emerald Family Far	ms	City/County: Hur	mbold+co. Sampling Date: 8/26/16
Applicant/Owner: StS Comerstone D			
Investigator(s): Greg O'connelle Cindy Wi			
	1.		convex, none): Lon Lau Slope (%): 2-5/2
Subregion (LRR):			Long: -123.62.70° Datum: Humbold
Soil Map Unit Name: Typic Kerofluvents.	liver	ash pesseig	hm NNAL classification: DDD
Are climatic / hydrologic conditions on the site typical for thi			
Are Vegetation, Soil, or Hydrologys			
Are Vegetation, Soil, or Hydrology r	naturally pro	blematic? ND (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N	0		
Hydric Soil Present? Yes N		Is the Sampled	Area ad? Yes No
Wetland Hydrology Present? Yes N			
Remarks: Apove average annual 1	ain fa	Ll. Lowest:	spotindrainage whin so'
Fill material, greater than 5	41516	DEALES D	vainege approximately 12 wide
VEGETATION – Use scientific names of plan	to	organ.	rectifie ga coppilitation and the second
VEGETATION – Ose scientific fiames of plan	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3		·	Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 5)		= Total Cover	That Are OBL, FACW, or FAC: (A/B)
1. Rubus armaniacus	105	V JAC	Prevalence Index worksheet:
2.			Total % Cover of:Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
-		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)	d .	1 1.01	UPL species x 5 = Column Totals: (A)
1. avena sativa	80	y orc	Column Totals: (A) (B)
2. Elymns glanch) 3. Elymns Copht-Meduser	10	N FACH	Prevalence Index = B/A =
3. Ognas capit require		N NC	Hydrophytic Vegetation Indicators:
4	-		1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
7			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
8			data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			¹ Indicators of hydric soil and wetland hydrology must
	92	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1			Hydrophytic
2			Vegetation Present? Yes No
% Bare Ground in Herb Stratum $ 8$		_= Total Cover	
Remarks:			

rofile Description: (Describe to the de	epth needed to document the indicator or confirm	
		the absence of indicators.)
IVIDUIX	Redox Features	184
nches) Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture Remarks
	λ	Guiss, area inducingle
211-24 10YR 3/2 100		gravellySL
ype: C=Concentration, D=Depletion, Ri rdric Soil Indicators: (Applicable to a	M=Reduced Matrix, CS=Covered or Coated Sand Gra	Viewer war war war war war war war war war wa
_ Histosol (A1)	-	Indicators for Problematic Hydric Soils ³ :
_ Histosof (AT) _ Histic Epipedon (A2)	Sandy Redox (S5) Stripped Matrix (S6)	2 cm Muck (A10) Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
_ Hydrogen Sulfide (A4) _ Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Other (Explain in Remarks)
_ Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
estrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
Had to start ser	veral pits before finding a	site up metal debus
Win 20'. Pit w/ woods	udebry dloose annually sende	Inom 3" diameter metal
pipe at side of pit. B	veral pits before finding a ydebns dloose gravelly sandy ld log pond.	IVANI. O GIVING IT I THE
01.0		
DROLOGY		
etland Hydrology Indicators:		
mary Indicators (minimum of one requir	ed; check all that apply)	Secondary Indicators (2 or more required)
_ Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
_ High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	
_ Saturation (A3)	Salt Crust (B11)	4A, and 4B)
_ Water Marks (B1)		Drainage Patterns (B10)
Sediment Deposits (B2)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Doppeite (P2)	Oxidized Rhizospheres along Living Roots	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5) No
Algal Mat or Crust (B4) Iron Deposits (B5)		
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I	 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface	 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	Raised Ant Mounds (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface	 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	Raised Ant Mounds (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface	 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	Raised Ant Mounds (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Id Observations: rface Water Present? Yes	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8)	Raised Ant Mounds (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Id Observations: Irface Water Present? Yes ater Table Present? Yes turation Present? Yes cludes capillary fringe)	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetlar	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Id Observations: Irface Water Present? Yes ater Table Present? Yes turation Present? Yes cludes capillary fringe)	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches):	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Observations: Iface Water Present? Yes ater Table Present? Yes turation Present? Yes fudes capillary fringe) Iscribe Recorded Data (stream gauge, n	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetlar	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Id Observations: Irface Water Present? Yes ater Table Present? Yes turation Present? Yes cludes capillary fringe) Isscribe Recorded Data (stream gauge, n	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetlar	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface eld Observations: urface Water Present? Yes ater Table Present? Yes aturation Present? Yes	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetlar	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Observations: Iface Water Present? Yes ater Table Present? Yes turation Present? Yes fudes capillary fringe) Iscribe Recorded Data (stream gauge, n	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetlar	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Id Observations: rface Water Present? Yes ater Table Present? Yes turation Present? Yes cludes capillary fringe) scribe Recorded Data (stream gauge, n	Stunted or Stressed Plants (D1) (LRR A) B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): Wetlar	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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WETLAND DETERMINATION DA		l – Western Mou	ntains, Valleys, and Coast Region	
Project/Site: Emerald Family Fam	ms	ity/County: Hur	mbold+co. sampling Data 8/210/114	•
Applicant/Owner: StS Comersione Da				_
Investigator(s): Greg O'connelle Cindy Wil				_
			convex, none): <u>concave</u> Slope (%): 2-4	5
Soil Map Unit Name: Typic X-erofluven ts-	_ Lat: <u>+0</u>	Hat Decould	Long: -123.6270° Datum: Humbo	- act
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrology si				
Are Vegetation, Soil, or Hydrology na	aturally prob	lematic? PO (If ne	eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map s	showing	sampling point l	ocations, transects, important features, etc	; .
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes No		Is the Sampled within a Wetlar		
Wetland Hydrology Present? Yes No				_
Remarks: Apove average annual mas recent fill material. Soils	ain fal	1. most of	the branch of this diamage	
from Google images, Soils 1	forming	onrecent	loose material. Applars > Syrs	
VEGETATION – Use scientific names of plant				
VEGETATION - Ose scientific names of plant	Absolute	Dominant Indicator	Dominance Test worksheet:	-
Tree Stratum (Plot size:)	There exists a contract of	Species? Status	Number of Dominant Species	
1			That Are OBL, FACW, or FAC: (A)	
2		· · · · · · · · · · · · · · · · · · ·	Total Number of Dominant	
3			Species Across All Strata: (B)	
4	01-		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size: 5)		= Total Cover	That Are OBL, FACW, or FAC: (A/B)	
1. VUDUS Gumeniacus	70	Y FAC	Prevalence Index worksheet:	
2			Total % Cover of: Multiply by:	
3			OBL species x 1 =	
4			FACW species x 2 =	
5	-		FAC species x 3 = FACU species x 4 =	1
Herb Stratum (Plot size: 5)	+0	= Total Cover	UPL species x 5 =	
1. Avene sativa	30	Y UPL	Column Totals: (A) (B)	
2. Brusslig nigra	5	N NL		
3			Prevalence Index = B/A =	-
4			1 - Rapid Test for Hydrophytic Vegetation	
5			2 - Dominance Test is >50%	
6			3 - Prevalence Index is ≤3.0 ¹	
7,			4 - Morphological Adaptations ¹ (Provide supporting	1
8			data in Remarks or on a separate sheet)	
9			5 - Wetland Non-Vascular Plants ¹	
10			Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must	
11	35		be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size:)		= Total Cover		-
16			Hydrophytic	
2			Vegetation	
% Bare Ground in Herb Stratum	p .	Total Cover	Present? Yes No _V	
			1	-
- Cle time prosal willing		b / <i>L</i>		
- old thre prosal willing	Ver i	plot.		
/				

Western Mountains, Valleys, and Coast - Version 2.0

SOIL

ij

Sampling Point: TP5

									11/
	ription: (Describe t	o the dept			dicator	or confirm	the absence o	f indicators.)	
Depth	Matrix Color (moist)	%	Redo Color (moist)	x Features	T 1	12	To the set	Dereite	
(inches)	104R312				Type ¹	_Loc ²	Texture	Remarks	
1 11		100	- 0 Cla	1101					ter aller respirete
1-19	1048312	99	104R 5/8	<1%	RM	m			
							91		
		1			—				
				3		······			
				• •					
¹ Type: C=Co	ncentration, D=Deple	tion, RM=	Reduced Matrix, CS	S=Covered	or Coate	d Sand Gra	ains. ² Loca	tion: PL=Pore Lining, M	/I=Matrix.
	ndicators: (Applica							s for Problematic Hydr	
Histosol (· /		Sandy Redox (S5)			2 cm l	Muck (A10)	
	ipedon (A2)		Stripped Matrix					Parent Material (TF2)	
Black His	· · ·		Loamy Mucky M		(except	MLRA 1)		Shallow Dark Surface (1	ľF12)
	n Sulfide (A4)		Loamy Gleyed				Other	(Explain in Remarks)	
	Below Dark Surface	(A11)	Depleted Matrix	. ,			31-414	a film along the dia second at	(
	rk Surface (A12) ucky Mineral (S1)		Redox Dark Su Depleted Dark		3			s of hydrophytic vegetati d hydrology must be pre	
	eyed Matrix (S4)		Redox Depress)			disturbed or problemation	
	ayer (if present):								
Type:									
Depth (incl							Hydric Soil P	resent? Yes	No
Remarks:	enday loos	(ani)							
	ngung	0 2011							
HYDROLOG	θY								
Wetland Hyd	rology Indicators:								
Primary Indica	ators (minimum of on	e required	; check all that appl	v)			Second	ary Indicators (2 or mor	e required)
Surface V	Vater (A1)		Water-Sta	ined Leave	s (B9) (e	xcept		ter-Stained Leaves (B9	
	er Table (A2)		_	1, 2, 4A, ar			_	4A, and 4B)	, (, ., .,
Saturation	n (A3)		Salt Crust		,			inage Patterns (B10)	
Water Ma				vertebrates	(B13)			-Season Water Table (C2)
	Deposits (B2)			Sulfide Odd				uration Visible on Aeria	
Drift Depo					. ,	Living Root		omorphic Position (D2)	
	an Omint (D.4)			60.1					

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; cl	neck all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (C3) 🗹 Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	FAC-Neutral Test (D5) No
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A)	Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)		
Field Observations:		
Surface Water Present? Yes No	Depth (inches):	
Water Table Present? Yes No	Depth (inches):	/
	Depth (inches): Wetland	Hydrology Present? Yes No 🗸
(includes capillary fringe)	pring well, aerial photos, previous inspections), if a	
Pessibe Recorded Data (stream gauge, monite	ning wen, aenai photos, previous inspections), il a	vanable.
Damarka		
Remarks:		

WETLAND DETERMINATION D		V – Western Mou	ntains, Valleys, and Coast Region
Project/Site: Emerald Family Fa	rms .	City/County: Hu	mbold+co. Sampling Date: 8/26/16
Applicant/Owner: StS Comersione			
investigator(s): Greg O'Connelle Cindy W	ilcoc	Section, Township, Ra	nge: 5.20+33, TTN, RSE
Landform (hillslope, terrace, etc.): <u>terrace</u>		Local relief (concave	convex, none): flat Slope (%): 0-2
Subregion (I BB): I K & A	Lat H	9419 ·	Long; -1.2-3.62.70° Datum: Humbela
Soil Map Unit Name: Typic Kerofluxer	ten lu	Nerwych AS	Solution none
Are climatic / hydrologic conditions on the site typical for t			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
			eeded, explain any answers in Remarks.)
		sampling point i	ocations, transects, important features, etc.
	No	Is the Sampled	Area
Hydric Soil Present? Yes Wetland Hydrology Present? Yes		within a Wetlan	
Remarks: Aparve average annual			
Net as distributes	2017 4	Indle north,	
VEGETATION – Use scientific names of pla	ants.		
	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species? Status	Number of Dominant Species
1		·	That Are OBL, FACW, or FAC; (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4		= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 5)			That Are OBL, FACW, or FAC: (A/B)
1. Rubus armeniacas	_ 10	Y FAC	Prevalence Index worksheet: Total % Cover of: Multiply by:
2			Total % Cover of: Multiply by: OBL species
3		<u> </u>	FACW species
4			FAC species x 3 =
5	- 70		FACU species x 4 =
Herb Stratum (Plot size: 5)	70	= Total Cover	UPL species x 5 =
1. Pue pratensis	50	Y FAC	Column Totals: (A) (B)
2. Elymus glancus	10	N FACU	Prevalence Index = B/A =
3. Dacus cartofu	2	N FACIN	Hydrophytic Vegetation Indicators:
4. Dectyles glomerate	2	N FACU	1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 ¹
7			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8			5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			¹ Indicators of hydric soil and wetland hydrology must
	64	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1 0			Hydrophytic
2			Vegetation Present? Yes V No No
% Bare Ground in Herb Stratum36	(= Total Cover	
Remarks:			al

C	\mathbf{a}	ł	1
0	S	ų	_

•)

Profile Desc	ription. (Describe	an man nob	in needed to docum	none une muio	acor or commi	in the absence	, or indicators,
Depth	Matrix			x Features			
(inches)	TOYR 4/2		Color (moist)	<u>%</u> <u>Ty</u>	pe ¹ _Loc ²	Texture	Remarks
0-2-	10 0 1				<u>_</u>		Knotovinas - 1-2" roots
2-24	7, 54R414	100	7,54R 8/1	<u>L1%</u>	C_M_	SL	Wocc. gravel
		v		. <u></u>		Λ	very dry
	28.			N			
				1.1			
							(
		•				2	
-				· · · · · · · · · · · · · · · · · · ·			
			Reduced Matrix, CS		Coated Sand G		cation: PL=Pore Lining, M=Matrix.
1		able to all	LRRs, unless other				ors for Problematic Hydric Soils ³ :
Histosol	(A1) bipedon (A2)		Sandy Redox (S Stripped Matrix				m Muck (A10)
Black His			Stripped Matrix Loamy Mucky N	. ,			d Parent Material (TF2) NO
	n Sulfide (A4)		Loamy Gleyed N		(Cept MLKA 1)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	Below Dark Surfac	e (A11)		. ,	37	01	
Thick Da	irk Surface (A12)		Redox Dark Sur			³ Indicat	ors of hydrophytic vegetation and
	lucky Minerał (S1)		Depleted Dark S	. ,		wetla	and hydrology must be present,
	leyed Matrix (S4)		Redox Depressi	ions (F8)		unle	ss disturbed or problematic.
	ayer (if present):						
Type:	where \.					1	
Depth (inc							Present? Yes <u>No</u>
Remarks:	wher north s	toils dis	sturbed - rec	ent gras	ding wi	m loose 1	comy du ff. The TPB suils
appear u	mdisturbe	1754B	Isillin the M	Rubus avi	men 200	-though	+ AUD of FOW Jube
a poter	tial weth	end or	a. / 1	doo condin	MICH & ADDITION	- 2 - 1 V - 1	
10 C -					a.11 1		
		CILIA UTI	ca. Soil color	much	redderth	an desi	inped in local soil descrip.
HYDROLOG	GY	cha an	(Typi	r much	redder the	lan desc liverwash	riped in local soil descrip.
Wetland Hyd	Irology Indicators:				redder the	lan desi liverwaah	riped in local soil descrip. , or older efferbergs series no
Wetland Hyd	Irology Indicators:		Check all that apply		redder th revents-	an desa literwash	niped in local soil descrip. , or older Etterbergs series na
Wetland Hyd Primary Indic	Irology Indicators: ators (minimum of c Water (A1)		; check all that apply		redder the revents-	lan desa lierwaah	
Wetland Hyd Primary Indic Surface V High Wat	Irology Indicators: <u>ators (minimum of c</u> Water (A1) ter Table (A2)		; check all that apply Water-Stain	()	redder th rwents - 1 9) (except	lan desa lierwaah	ndary Indicators (2 or more required)
Wetland Hyd Primary Indic Surface N High Wat Saturatio	Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3)		; check all that apply Water-Stain	/) ned Leaves (B 1, 2, 4A, and 4	redder th rwents - 1 9) (except	<u>an dese</u> lerwaan <u>Seco</u>	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma	Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1)		<u>; check all that apply</u> Water-Stain MLRA 1 Sait Crust (Aquatic Inv	/) ned Leaves (B: 1, 2, 4A, and 4 (B11) vertebrates (B1	redder +4 ruents -4 9) (except B) 3)	<u>an dese</u> lerwach <u>Seco</u> 	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hyd Primary Indic Surface M High Wat Saturatio Water Ma Sediment	Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		: check all that apply Water-Stain MLRA 1 Sait Crust (Aquatic Inv Hydrogen 5	/) ned Leaves (B: 1, 2, 4A, and 4 (B11) //ertebrates (B1 Sulfide Odor (C	redder +7, wwents-1 9) (except B) 3) 21)	<u>en dese</u> lerwaan <u>Seco</u> 	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep	Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		: check all that apply Water-Stain MLRA 1 Sait Crust (Aquatic Inv Hydrogen S Oxidized R	/) ned Leaves (B: 1, 2, 4A, and 4 (B11) vertebrates (B1 Sulfide Odor (C hizospheres al	9) (except B) 3) C1) long Living Rod	<u>en dese</u> lerwaan <u>Seco</u> 	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat	Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		: check all that apply Water-Stain MLRA 1 Sait Crust (Aquatic Inv Hydrogen S Oxidized R Presence of	/) ned Leaves (B: 1, 2, 4A, and 4 (B11) rertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iror	9) (except B) 3) C1) long Living Roo n (C4)	<u>seco</u> <u>Seco</u> <u></u> 	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hyd Primary Indic Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo	Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)		: check all that apply Water-Stain MLRA 1 Sait Crust (Aquatic Inv Aquatic Inv Hydrogen S Oxidized R Presence co Recent Iron	/) ned Leaves (B 1, 2, 4A, and 4 (B11) vertebrates (B1 Sulfide Odor (C hizospheres al of Reduced Iror n Reduction in	9) (except B) 3) C1) long Living Roo n (C4) Tilled Soils (C6	<u>an dese</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Seco</u> <u>Se</u>	ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) №
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