Biological and Wetland Assessment—Revision 1

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NOV. 9, 2023 Humboldt County PLANNING

> Garberville Sanitary District Robertson/Wallan/Hurlbutt Tanks Replacement Project

> > **Prepared for:**

Garberville Sanitary District

October 2023 022067.210

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Reference: 022067.210

October 4, 2023

Ralph Emerson Garberville Sanitary District P.O. Box 211 Garberville, CA 95542

Subject: Biological and Wetland Assessment—Revision 1, Garberville Sanitary District Robertson/Wallan/Hurlbutt Tanks Replacement Project

Dear Ralph Emerson:

SHN has prepared this biological and wetland assessment for the Garberville Sanitary District water tanks replacement project. This assessment addresses potential project impacts to habitat, wetlands, and special-status species within the project area. This Revision 1 addresses the project area as of October 2023.

No special-status species were observed within the study area. Special-status species are unlikely to be impacted by the project due to the avoidance of suitable habitat during project activities, and the lack of occurrences within the project area. Two sensitive vegetation community types occur within the study area in multiple locations as shown on Figures 2-4. Ten wetlands and five streams occur within or immediately adjacent to the study area. These features should be avoided during project implementation. The recommendations in this assessment are intended to avoid or reduce impacts to habitat and wetlands that could occur during the construction of the project.

Please email me at <u>jsaler@shn-engr.com</u> or call me at 707-822-5785 if you have any comments or concerns.

Respectfully submitted,

SHN

Joseph Saler Senior Ecologist

JLS:cet Enclosure: Biological and Wetland Assessment-Revision 1

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Biological and Wetland Assessment—Revision 1

Garberville Sanitary District Robertson/Wallan/Hurlbutt Tanks Replacement Project

Prepared for:

Garberville Sanitary District

Prepared by:



1062 G Street, Suite I Arcata, CA 95521 707-822-5785

October 2023

QA/QC:JLS<u>JLS</u> Reference: 022067.210

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Abbreviations and Acronyms

Units of I	Measure		
Term	Definition	Term	Definition
С	Celsius	mi	mile
ft	feet	sqft	square feet
km	kilometer	·	•
Addition	al Terms		
Term	Definition	Term	Definition
A1	surface water	FP	Fully Protected species status
A3	saturation	G1/S1	critically imperiled species
BLM	Bureau of Land Management		heritage rank
BCC	Board of Conservation Concern	G2/S2	imperiled species heritage rank
BIOS	Biogeographical Information	G3/S3	vulnerable species heritage
2.00	and Observation System		rank
BMP	best management practices	G4/S4	apparently secure species
C	Candidate species status		heritage rank
ССН	Consortium of California	G5/S5	secure species heritage rank
	Herbaria	GIS	Geographic Information System
CDFW	California Department of Fish	GSD	Garberville Sanitary District
	and Wildlife	IPaC	Information for Planning and
CEQA	California Environmental		Conservation
× ×	Quality Act	MBTA	Migratory Bird Treaty Act
CESA	California Endangered Species	NCRWQCB	North Coast Regional Water
	Act	- (-	Quality Control Board
CNDDB	California Natural Diversity	NDMC	National Drought Mitigation
	Database		Center
CNPS	California Native Plant Society	NL	Not Listed
СТ	candidate threatened species	NOAA	National Oceanic and
	status		Atmospheric Administration
CWA	Clean Water Act	NR	Not Referenced
D	Delisted species status	NRCS	Natural Resources Conservation
D2	geomorphic position		Service
D3	shallow aquitard	NWI	National Wetland Inventory
DI	Drainage Inlet	OBL	Obligate
District	Garberville Sanitary District	OHV	Off-highway Vehicle
DPS	Northern California distinct	OHWM	Ordinary High Water Mark
	population segment/species	PT	Proposed Threatened
	status	ROW	Right-of-Way
E	Endangered species status	SNR	species not ranked
ESU	evolutionarily significant	SSC	species of special concern
	unit/species status	Т	Threatened species status
F3	depleted matrix indicator	TNW	Traditional Navigable Waterway
FAC	Facultative vegetation	TP	Test Pit
FACU	Facultative Upland vegetation	UPL	Upland
FACW	Facultative Wetland vegetation	USACE	U.S. Army Corp of Engineers
FESA	Federal Endangered Species Act	USDA	U.S. Department of Agriculture



Term	Definition	Term	Definition
USFS	U.S. Forest Service	WETS	Climate Analysis for Wetlands
USFWS	U.S. Fish and Wildlife Service		Table
USGS	United States Geological Survey	WL	Watch List species status
VegCAMP	Vegetation Classification and		
	Mapping Program		



1.0 Introduction

SHN biologists conducted biological and botanical surveys for special-status species¹ within the area of potential effects for the replacement of existing municipal water tanks and other Garberville Sanitary District (GSD, District) improvements in several locations around the town of Garberville, California (see Figure 1). A wetland delineation was conducted in conjunction with the biological and botanical surveys by SHN's wetland ecologist and soil scientist, which documents potential wetland conditions within the project areas on April 12, 15, and 27, 2022 and February 17, May 9, and May 10, 2023. The study area covered several distinct locations (see Figure 1; Maxar, 2021). Section 1 covers the Wallan Tank and Pump Station off Wallan Road (total study area of 1.35 acres); Section 2 is located along Alderpoint Road near the existing Robertson Tank and Arthur Pump Station and includes portions of the CalFire Station (total study area of 8.6 acres); and Section 3 covers the existing Tobin Well site, existing Hurlbutt Tank site with pressure tank and pump system, and the proposed Main Tank site (total study area of 13.14 acres; Figures 2 through Figure 4). The study area covers an area of approximately 23.10 acres (see Figure 1). This biological and wetland assessment documents the results of the biological and wetland site investigation within the study area.

2.0 Project Description

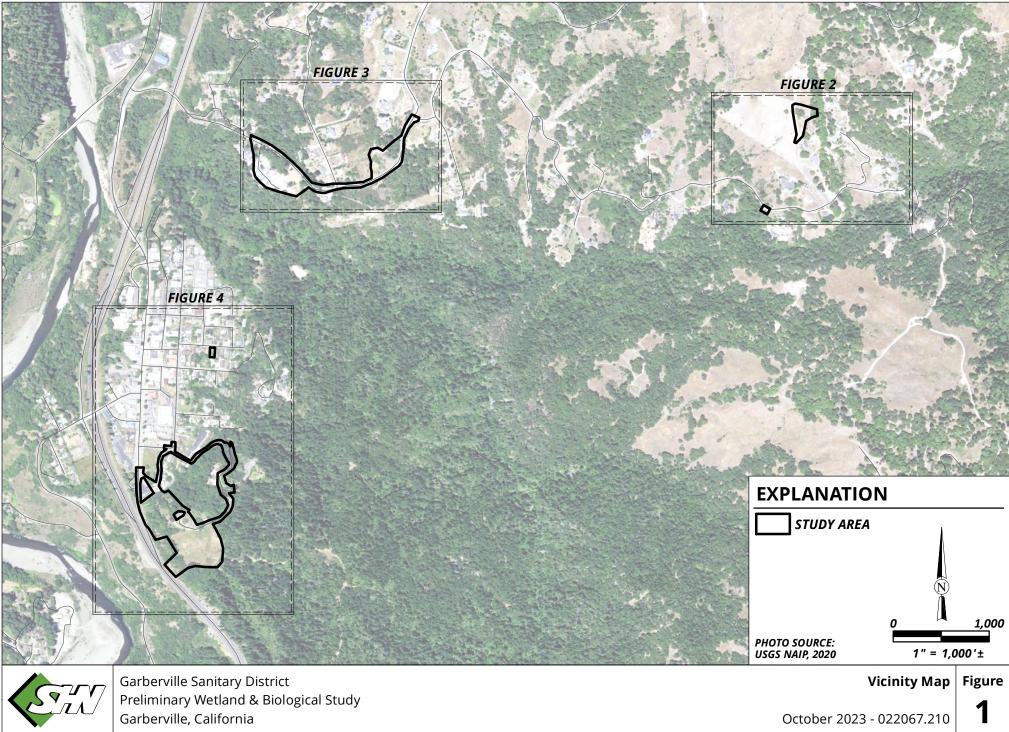
The District is proposing to replace the existing 180,000-gallon, in-ground, concrete, finished water storage tank (Hurlbutt/Main Tank) and a 20,000-gallon, failing, redwood drinking water storage tank (Wallan Tank) with two new increased capacity tanks. In addition, the failing Robertson Tank, which has been taken out of service, will be removed from the system. The new Main Tank will be an in-ground, approximately 550,000-gallon, pre-stressed concrete tank located on an adjacent parcel and similar elevation to the existing tank. The existing Wallan Tank will be replaced with an approximately 77,000-gallon welded steel tank. Both of the existing tanks in operation are leaking and lack sufficient storage capacity for maximum daily consumption and fire suppression; they also do not meet current seismic design standards.

In addition, the District proposes to replace or upgrade three booster Pump Stations (Upper Maple Lane Pump Station, Arthur/Alderpoint Pump Station, and Wallan Pump Station). The existing Upper Maple Lane Pump Station is located at the existing Hurlbutt Tank site and will be demolished when the Hurlbutt Tank is demolished. A new Upper Maple Lane Pump Station will be constructed at the site of the new Main Tank. The existing Arthur Pump Station is in poor condition and has operational deficiencies that will be improved when this Pump Station is replaced by the Alderpoint Pump Station. The Wallan Pump Station is also in poor condition and requires upgrades to meet the operational requirements of the new Wallan Tank.

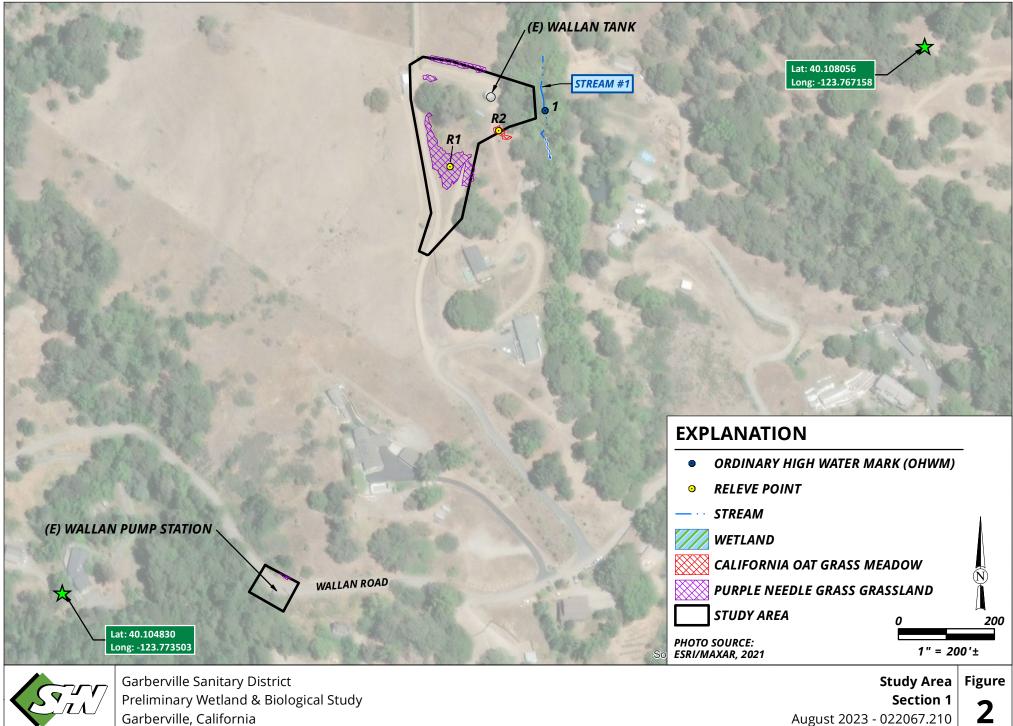
The project includes installation of some new segments of distribution piping in order to connect the new tanks and Pump Stations to the existing distribution system.

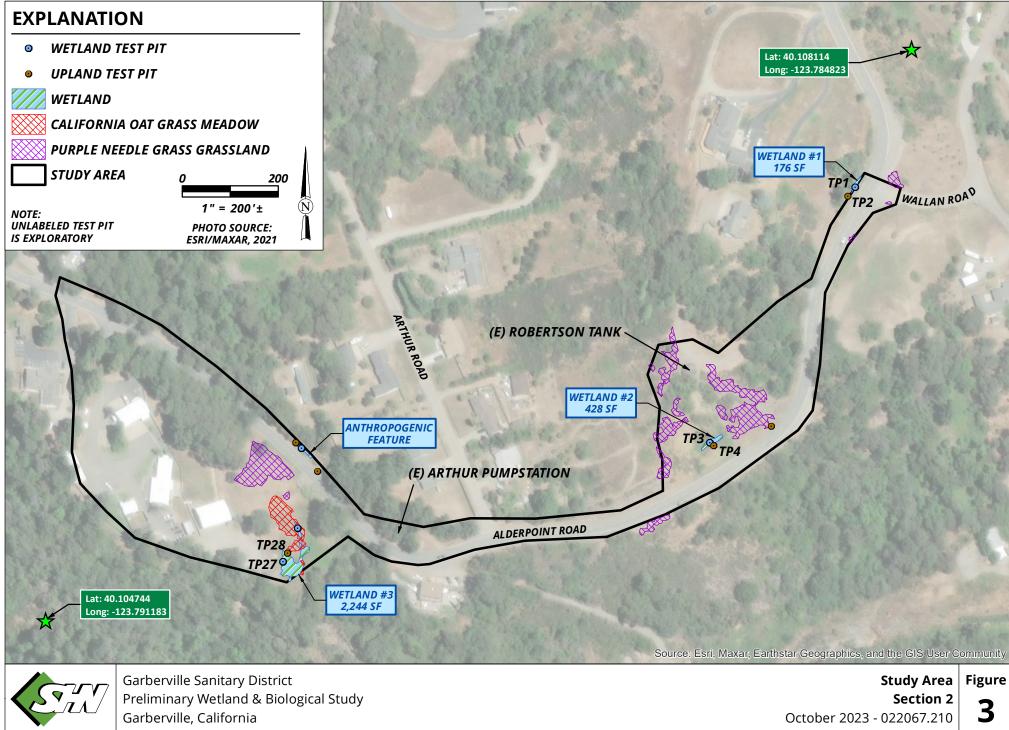
¹The term "Special-status Species" is used collectively to refer to species that are State or federally listed, species that are State or federal candidates for listing, and all species listed by the California Natural Diversity Database. This term is consistent with the biological resources that need to be assessed pursuant to the California Environmental Quality Act.

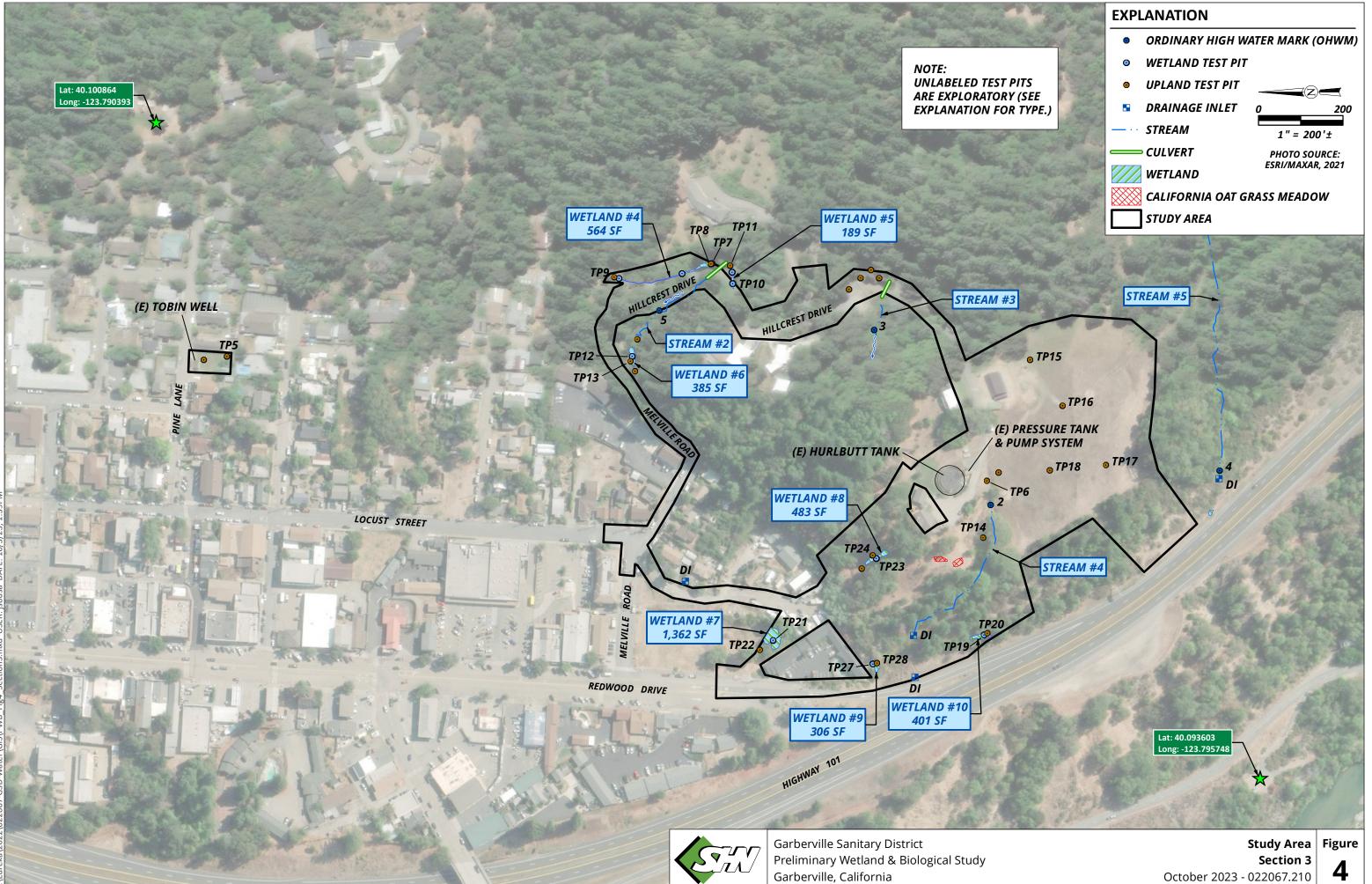




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3.0 Background

The project is located in three separated distinct sections in and around the town of Garberville, California, within an unincorporated area of Humboldt County (Figure 1; United States Geological Survey [USGS] Garberville 7.5-minute Quadrangle, Township 4 South, Range 3 East, Section 24, Township 4 South, Range 4 East, Sections 18 and 19, Humboldt Meridian).

The study areas and the water distribution system and associated infrastructure have remained relatively unchanged for the past 20 years (Google Earth, 2022). They have been managed in much the same way over the years. Existing and proposed tank and Pump Station sites have remained vegetated at a similar density. The Wallan Tank site is atop a steep south-southwest-facing slope, approximately 1,150 feet above sea level, and the Wallan Pump Station is on a moderately steep south-southwest facing slope approximately 855 feet above sea level (Figure 2). The Robertson Tank site is atop a south-facing steep slope approximately 780 feet above sea level, uphill from the Arthur Road Pump Station, which is on a generally-level hillside bench, approximately 615 feet above sea level (Figure 3). The CalFire Station is downslope from the Arthur Road Pump Station, on a larger hillside bench between 550 and 600 feet above sea level. The Wallan and Robertson Tank sites and the CalFire Station are located within a rural residential area northeast of the town of Garberville. The existing Hurlbutt Tank and proposed Main Tank site is on a west-facing moderately-steep slope approximately 700 feet above sea level (Figure 4). This site includes a residence and several associated structures south of the town of Garberville. Downtown Garberville is on a west-facing hillside bench, with a gentle slope approximately 550 feet above sea level, within an urban residential area (Figure 4).

4.0 Environmental Setting

4.1 Site Hydrology

The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Climate Analysis for Wetlands Table (WETS) method was used to review rainfall conditions for the previous three months prior to the test pit (TP) investigations (or the same month and two months prior if after the 15th (Table 1; USDA-NRCS, 2022a). The TP investigations occurred on April 12, 15, and 27, 2022, and February 17, and May 9 and 10, 2023. The current rainfall data for January, February, March, and December 2022 and January, February, March, April, and May 2023 (National Oceanic and Atmospheric Administration (NOAA, 2023) were compared to the 30-year rainfall average in Scotia, California (the nearest long-term records; 1991-2020 data) for the same months. If the current rainfall of each month is between 30% and 70% of the 1991-2020 precipitation average, it is "normal" rainfall; if above 70%, it is ranked "wetter than normal" rainfall; if below 30%, it is ranked "drier than normal" rainfall. The WETS data indicates that both the April 12 and April 15, 2022 TP investigations were performed during a "drier than normal" rainfall season, and the February 17, May 9, and May 10, 2023 investigations were performed during "normal" rainfall periods.



Month	WETS Condition	<30%	> 70%	Rainfall (in.)	Condition Value	Weight	Product Value	
	April 12, 15, and 27, 2022 Test Pit Excavation							
March 2022	Dry	4.35	8.48	2.00	1	3	3	
February 2022	Dry	4.37	9.40	0.63	1	2	2	
January 2022	Dry	4.38	10.42	2.14	1	1	1	
Total					Drier than N	lormal ^a	6	
	Feb	oruary 17, 2	023 Test Pi	it Excavatio	on			
February 2023	Normal	4.37	9.40	7.04	2	3	6	
January 2023	Above Normal	4.38	10.42	16.94	3	2	6	
December 2022	Normal	5.17	11.69	11.13	2	1	2	
Total						Normal ^a	14	
	May 9 and 10, 2023 Test Pit Excavation							
May 2023	Normal	0.93	2.34	1.18	2	3	6	
April 2023	Normal	2.49	4.67	2.57	2	2	4	
March 2023	Above Normal	4.35	8.48	11.83	3	1	3	
Total Normal ^a					13			

Table 1.WETS Rainfall Data, 2022 and 2023, Hydrological AnalysisGarberville, Humboldt County, California

^a A sum of 6-9 prior to site investigation is considered a drier than normal rainfall.

10-14 prior to site investigation is considered a normal rainfall.

15-18 prior to site investigation is considered a wetter than normal rainfall.

Sources: USDA-NRCS, 2022a; NOAA, 2023

In addition to reviewing the WETS table, there is also the consideration of drier than normal conditions over an extended period. The NOAA and USDA have a National Drought Mitigation Center (NDMC) that monitors drought. The NDMC classifies this region as undergoing a "Severe Drought" during the April 2022 investigations. During the February 2023 site investigation, this region had enough precipitation in winter to re-classify it to "Abnormally Dry" and by April 2023, "No Drought" (NDMC, 2022; Appendix 1). Long term drought conditions necessitate addition considerations for wetland hydrology indicators, discussed in Section 6.3 Hydrology Methods.

4.2 National Wetlands Inventory

The United States Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI; USFWS, 2022a) does not have any wetland or riparian areas mapped within the study area (Appendix 1, NWI). This general categorization by the NWI is not intended for planning purposes because of the lack of ground-truthing. In the "Data Limitations, Exclusions and Precautions" disclaimer, it states that:

"The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high-altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis." (USFWS, 2022a)



The intent of this study is to determine wetland conditions within the study area using site-specific soil, hydrology, and vegetation analysis.

4.3 Geologic and Soil Composition

The site is set within Pliocene-aged marine sediments mainly composed of sandstone, siltstone, shale and moderately consolidated conglomerate (California Department of Conservation [CDC], 2010). The underlying soils in the study areas have the USDA-NRCS soil map unit designation 311- Urban land-Garberville complex, 5 to 15% slopes; 461-Tannin-Burgsblock-Rockyglen complex, 30 to 50% slopes; 667—Dryfield-Yorknorth-Witherell complex, 5 to 30% slopes; and 673-Coolyork-Yorknorth Complex, 30 to 50% slopes. The complete description of these soils and location maps are in Appendix 2 (USDA-NRCS, 2022b).

5.0 Biological Survey Methods

5.1 Biological Scoping Methods

A list of special-status species was developed from known occurrences within the Garberville and adjacent 7.5-minute quadrangles, available from the following sources:

- Consortium of California Herbaria (CCH, 2022)
- Calflora Project (Calflora, 2022)
- California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW], 2022a)
- Biogeographical Information and Observation System (BIOS; CDFW, 2022b)
- Special Animals of California List (CDFW, 2022c)
- Electronic Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society [CNPS], 2022)
- USFWS Information for Planning and Consultation (IPaC; USFWS, 2022b)
- USFWS Threatened and Endangered Species Active Critical Habitat Report Geographic Information System (GIS) database (USFWS, 2022c).

Using information about sensitive species potentially present in the vicinity of the project area, SHN conducted botanical and biological surveys to determine if any of these species were located within or adjacent to the project area or had potential to occur based on habitat availability.

Appendix 3, Table 1, presents the botanical species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. Appendix 3, Table 2 presents the animal species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. Each species was evaluated for its potential to occur within the study area according to the following criteria:

1) **None**. Species listed as having "none" with regard to their potential to occur on the study area are those species for which:



- there is no suitable habitat present in the study area. (Habitats in the study area are unsuitable for the species requirements [e.g., elevation, hydrology, plant community, disturbance regime, etc.])
- 2) Low. Species listed as having a "low" potential to occur in the study area are those for which:
 - there is no known record of occurrence in the vicinity of the study area; and
 - there is marginal or very limited suitable habitat present in the study area.
- 3) **Moderate**. Species listed as having a "moderate" potential to occur on the study area are those species for which:
 - there is a known record of occurrence in the vicinity of the study area; and
 - there is suitable habitat present in the study area.
- 4) **High**. Species listed as having a "high" potential to occur in the study area are those species for which:
 - there is a known record of occurrence in the vicinity of the study area (there are many records and/or records in close proximity); and
 - there is highly suitable habitat present in the study area.
- 5) **Present**. Species listed as "present" in the study area are those species for which:
 - the species was observed in the study area during the investigations.

5.2 Field Investigations

Based on the results of the aforementioned database queries, a focused botanical survey was conducted pursuant to the CDFW *Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities* (CDFW, 2018). Plants observed during site visits were identified to the lowest taxonomic level possible to distinguish special-status species from others. Vegetation alliances conform to the Vegetation Classification and Mapping Program's (VegCAMP) Natural Communities List (CDFW, 2020) and A Manual of California Vegetation online (CNPS, 2023). Botanical nomenclature of species in this Assessment follows the Jepson Manual (Baldwin et al., 2012) and subsequent online revisions (UCB, 2022). In accordance with the botanical survey protocol recommended by CDFW, botanical surveys were floristic in nature, with an attempt to identify all species present, including possible special-status species and natural communities (CDFW, 2018).

Active searches and habitat assessments were conducted for special-status animal species during site visits. Nomenclature for special-status animals conforms to the CDFW Animals List (CDFW, 2022c).

Field surveys were conducted on April 12, 15, 27, and July 1, 2022, and May 9, and 10, and July 5 and 6, 2023 for all special-status species and sensitive habitats potentially present (Appendix 3, Tables 1 and 2) in the study area. The protocol floristic plant surveys and reconnaissance-level wildlife habitat and animal observation surveys covered the entire project area and area of potential effects, as well as a buffer around the project area of potential effects. (See Figure 1 for approximate survey boundary). Vegetation Rapid Assessment and Relevés were conducted to document conditions within sensitive natural communities and are attached in (Appendix 4).



In addition to surveying for target species, lists of all botanical and animal species encountered were compiled. A list of observed botanical species is attached as Appendix 3, Table 3. A list of observed animal species is attached as Appendix 3, Table 4.

6.0 Wetland Assessment Methods

Wetland field investigations were conducted on April 12, 15, and 27, 2022, and February 17, May 9, and May 10, 2023. Twenty-eight (28) test pits were excavated to characterize wetland conditions within the study area. If wetland parameters were observed, then a subsequent test pit was excavated to investigate further for hydric soil indicators and additional hydrology. Results were recorded for soils, vegetation, and hydrology on United States Army Corps of Engineers (USACE) Wetland Determination Data Forms (Appendix 5). Exploratory pits were excavated to help confirm wetland boundaries. These are soil pits that help delineate boundaries by confirming hydrology and hydric soils conditions but are not followed up with data sheets when conditions are similar to those recorded in adjacent test pits on wetland determination data forms.

Wetland delineation methods described in the *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 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. Prior to conducting the field investigation, SHN staff reviewed Google Earth (Google Earth, 2022) and NWI map (USFWS, 2022a; Appendix 1). During the field investigation, sample points were characterized at the site for the botanical, hydrological, and soil parameters.

Point locations were used to:

- achieve appropriate coverage and characterization of any potential 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).

The study area was investigated by choosing test pit and exploratory pit locations at edges of depressions, in locations with evidence of standing water, changes in vegetation, or dominance of hydrophytic vegetation, locations of flow patterns, or changes in topography. Areas with potential wetland parameters were selected as pit locations to ascertain the presence or absence of wetlands and the extent of wetlands within the study area. This resulted in a conservative search being conducted for potential wetlands (see Figures 3 and 4 for TP locations). If wetland conditions were absent, then no additional test pit was excavated.

6.1 Vegetation Methods

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 2020 Regional Wetland Plant List* was used (USACE, 2020). Absolute percent cover of each plant species was visually estimated within the sample point and within each vegetation stratum. The herbaceous and shrub stratums were



inspected at a 5-foot radius centered on the sample point while the tree stratum was inspected at a 30foot radius centered on the sample point. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin et al., 2012) in addition to the online Jepson eflora (UCB, 2022) 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 2020 Regional Wetland Plant List* (USACE, 2020). Synonyms were checked for species that did not appear on the USACE wetland plant list. Plant species were classified as:

- Obligate (OBL)-almost always occurs in wetlands
- Facultative-wet (FACW)-usually occurs in wetlands, but may occur in non-wetlands
- Facultative (FAC)–occurs in wetlands and non-wetlands
- Facultative-upland (FACU)–usually occurs in non-wetlands, but may occur in wetlands
- Upland (UPL)-almost never occurs in wetlands
- Not listed (NL)-scored as an upland plant and calculated as such on wetland determination forms

The 50/20 method² was applied to each stratum to determine the dominant plant species and to satisfy the hydrophytic vegetation criteria. When the site failed to meet the 50/20 standard, and both hydric soils and wetland hydrology were present, the prevalence index³ 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 highwater mark (OHWM).

6.2 Soil Methods

Soils were field verified for the presence or absence of hydric conditions. 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, 2018). All TPs were manually excavated using hand tools to a minimum depth of 24 inches when possible. The thickness of each soil horizon was measured. The Munsell Soil Color Chart (Munsell, 2009) was referenced to determine the 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" (USDA-NRCS, 2018).

6.3 Hydrology Methods

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). Observations for wetland hydrology were made during TP excavations on April 12, 15, and 27, 2022, and February 17, May 9, and May 10, 2023. Wetland hydrology is determined by the

^{3.} 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).



^{2.} 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).

presence of surface and/or ground water in addition to indirect hydrologic indicators (such as, water marks, drift deposits, sediment deposits, drainage patterns, geomorphic position, water-stained leaves, and similar features). Indicators of extended periods of saturation would include oxidized rhizospheres surrounding living roots or the presence of reduced iron or sulfur in the soil profile. A site must contain at least one primary indicator or two secondary indicators to qualify for the hydrology parameter (Section 4.1 Site Hydrology). In addition, aerial imagery was reviewed that may show past inundation, seasonal inundation patterns, or changes onsite that may have influenced hydrology.

The NDMC was reviewed for the north coast region, which includes the study area. This region was experiencing an "Extreme Drought" during the April 2022 investigations, according to the NDMC (Appendix 1). If the wetland delineation is conducted within a region that is experiencing a prolonged extreme drought, the USACE manual (USACE, 2010) describes the follow change in methods for determining hydrology:

"c. Drought years. Determine whether the area has been subject to short or long-term drought. Droughts lasting two to several years in a row are common in the region, particularly in interior portions away from the Pacific coast. Drought periods can be identified by comparing annual rainfall totals with the normal range of annual rainfall given in WETS tables or by examining trends in drought indices, such as the Palmer Drought Severity Index (PDSI; Sprecher and Warne 2000). If wetland hydrology indicators appear to be absent on a site that has hydrophytic vegetation and hydric soils, no significant hydrologic manipulation (e.g., no dams, levees, water diversions, land grading, etc., and the site is not within the zone of influence of any drainage ditches or subsurface drains), and the region has been affected by drought, then the area should be identified as a wetland." (USACE, 2010)

Because the study area is located within a region that was experiencing a persistent, extreme drought and in a "drier than normal" rainfall period during the April 2022 portion of the wetland delineation (see Section 4.1; Site Hydrology), every TP with hydric soil indicators *and* hydrophytic vegetation was assumed to have wetland hydrology normally, even if it was not observed during the wetland delineation fieldwork. In addition, the April 2022 test pits were also excavated to at least 24 inches if no other hydrology indicators were met, to determine if the USACE hydrology "Dry-Season" Water Table (C2) indicator was observed (USACE, 2010). The February 17, and May 9 and 10, 2023 portion of the wetland investigation was performed during a "normal" rainfall period and drought conditions have been reduced from "Abnormally Dry" to "No Drought", which does not require the same level of assumptions (See Appendix 1).

6.4 Ordinary High Water Mark Methods

For purposes of Section 404 of the Clean Water Act (CWA), the lateral limits of federal 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 removal
- Silt deposits
- Shelving
- Headcut/knickpoint
- Macroinvertebrates

7.0 Existing Habitat Conditions

7.1 Wallan Tank Site and Pump Station

Section 1 of the study area (Figure 2) includes the Wallan Tank site and Wallan Pump Station for a total of 1.35 acres. The Wallan Tank site and corresponding Pump Station are characterized by sparsely forested slopes in an area of rural development northeast of the town of Garberville. The Wallan Tank (see Appendix 6, Photo 1) is positioned upslope of Wallan Road and just west of a narrow strip of mixed hardwood and conifer woodland along the steep slopes of a ravine. A nearby unnamed seasonal stream (Stream #1) was mapped within the forested ravine (Figure 2; Appendix 6, Photo 2). Burn marks and debris within the forested area indicate a historical burn, estimated approximately 70 years ago. The study area around the Wallan Tank also contains several populations of sensitive vegetation communities: California oatgrass (Danthonia californica Herbaceous Alliance) grassland and purple needlegrass (Stipa spp. Herbaceous Alliance) grassland (Figure 2), further described in Section 8.0 below. Historically disturbed areas within the Wallan Tank site are dominated by nonnative annual grasses and forbs, such as large quaking grass (Briza maxima), soft chess (Bromus hordeaceus), silver hairgrass (Aira caryophyllea), and yellow star thistle (Centaurea solstitialis). At the time of 2022 and 2023 surveys, the Wallan Tank was leaking, and a pool of accumulated water was present around the base of the tank (see Appendix 6, Photo 1). This area was not mapped as wetland due to its highly artificial and disturbed nature.

The Wallan Pump Station is located south of Wallan Road at the edge of a mixed hardwood and conifer forest, which extends along the south of Wallan Road. The sensitive vegetation community, purple needlegrass grassland, is present across from the Pump Station on the north bank of Wallan Road (Figure 2).



7.2 Robertson Tank Site, Arthur Pump Station, and CalFire Station

Section 2 of the study area (Figure 3) is 8.6 acres and includes the Robertson Tank site, the Arthur Pump Station, Alderpoint Road, and the CalFire Station. The Robertson Tank is located atop a steep southsouthwest-facing slope north of Alderpoint Road in an area of rural development northeast of the town of Garberville (Appendix 6, Photos 3 and 4). The tank is partially below ground within a grassland adjacent to a mixed hardwood and conifer woodland that extends down the slope. This portion of study area also includes several populations of sensitive purple needlegrass grassland between Robertson Tank and Alderpoint Road and extending along Alderpoint Road (Figure 3) and discussed in Section 8.0 below. There are also two isolated wetlands within the study area, discussed in detail in Section 11.0 below.

The Arthur Pump Station is located just north of Alderpoint Road within a stand of Douglas fir (*Pseudotsuga menziesii*) between Alderpoint road and residential development. Across Alderpoint Road, mixed hardwood/Douglas fir forest extends south of the Arthur Pump Station toward the town of Garberville.

The CalFire Station is located immediately south and downslope from Alderpoint Road on a large hillside bench that ranges from moderately steep to mostly flat. Flat portions of the area are developed with the CalFire Station infrastructure and this area is dominated by non-native species including landscaping and other cultivated plants. Undeveloped portions of the area are dominated by mixed conifer and hardwood forest specifically on the perimeter of the station area and in the northern portion of the area along Alderpoint Road. The undeveloped southeastern portion of the CalFire Station area is dominated by native and non-native grassland, including large sections of California oatgrass grassland and purple needlegrass grassland described in Section 8.0.

7.3 Tobin Well Site and Hurlbutt/Main Tank Sites

Section 3 of the study area (Figure 4) includes the Tobin Well site, the existing Hurlbutt Tank site, and proposed Main Tank site for a total of 13.14 acres. Vegetation present at the Tobin Well site consists of nonnative grasses and herbs, as well as ornamental trees and shrubs. No sensitive plant communities or wetlands were identified within this portion of the study area.

The Hurlbutt/Main Tanks site is accessed from the southeastern end of downtown Garberville via Melville Road and Hillcrest Drive (Figure 4). The access roads pass through mixed hardwood/conifer woodlands, connecting to a large, expansive forested area dominated by mature Douglas fir to the south and east of Garberville. The study area encompasses the existing Hurlbutt Tank, a residence, and several other associated structures accessed from a paved driveway northwest of a large gently-sloping mowed non-native grassland. The proposed location of the new Hurlbutt Tank is on the southwestern edge of the sloping mowed pasture. The residence, existing, Hurlbutt Tank, proposed Main Tank, and the mowed pasture are surrounded by mixed hardwood-conifer forests. The southwestern edge of the study area includes a steep cut slope dominated by young forest and shrubland between the mowed pasture and U.S. Highway 101. Several seasonal streams and wetlands exist within and adjacent to the study area, as shown in Figure 4 and discussed in detail in Section 11.0 below. Dominant species within the forested area include Oregon white oak (Quercus garryana), California bay laurel (Umbellularia californica), madrone (Arbutus menziesii), and Douglas fir, which have a well-developed understory with native herbaceous and woody species dominant. Within the mowed pasture dominant species were non-native species common within managed pasture and grassland, including subterranean clover (Trifolium subterraneum [NL]), sweet vernal grass (Anthoxanthum odoratum [FACU]), hairy oatgrass



(*Rhytidosperma penicillatum* [NL], California blackberry (*Rubus ursinus* [FACU]), velvet grass (*Holcus lanatus* [FAC]), and creeping bentgrass (*Agrostis stolonifera* [FAC]).

8.0 Natural Communities

Sensitive vegetation communities, with a rank of S3 or lower, require California Environmental Quality Act (CEQA) analysis if potential impacts may occur. Two sensitive vegetation communities as defined by the Manual of California Vegetation or CDFW Natural Communities list occur within the study area (Sawyer, 2009; CNPS, 2023; CDFW, 2022a; Figures 2, 3, and 4). These include purple needlegrass grassland (*Stipa* spp. Herbaceous Alliance) and California oatgrass grassland (*Danthonia californica* Herbaceous Alliance) and appropriate species associations.

Purple needlegrass grassland (Stipa spp. Herbaceous Alliance) occupies approximately 26,977.9 sqft (0.62 acre) within the study area. The majority of the purple needlegrass grassland is in Section 2 with multiple occurrences totaling 19,484.67 square feet (sqft; 0.45 acre; Figure 3). Four well-developed, intact purple needlegrass grassland occurrences exist in Section 1, for a total of 7,493.20 sqft (0.17 acre; Figure 2). The purple needlegrass grasslands observed within the study area are further described to the association level. Within Section 1, all purple needlegrass grasslands were best described as having the *Stipa pulchra* association, which is characterized by high cover and dominance by purple needlegrass. Purple needlegrass grasslands within the study area displayed up to 80 percent cover by purple needlegrass, most of which was flowering at the time of the survey (Appendix 6, Photo 5). Common associated species included large quaking grass, coast heron's bill (Erodium cicutarium), California oatgrass, rose clover (Trifolium hirtum), and purple sanicle (Sanicula bipinnatifida), among others. Purple needlegrass grassland within the study area is generally on open, herbaceous-dominated south-facing slopes in locations with a history of minimal recent disturbance. More disturbed areas display much higher cover by non-native annual grasses, including an off-highway vehicle (OHV) trail that nearly bisects the purple needlegrass grassland immediately south of the Wallan Tank site. Purple needlegrass grassland has a global heritage rank of G3G4 and a State heritage rank of S3S4, and the Stipa pulchra association has an additional rarity ranking of S3, therefore qualifying for consideration under CEQA Guidelines checklist IVb. Releve' Data Sheet 1 documents representative conditions within the purple needlegrass grasslands in the study area and this data point was located within a large purple needlegrass grassland south of the Wallan Tank site (Appendix 4).

California oatgrass grassland (*Danthonia californica* Herbaceous Alliance) occupies approximately 5,063.86 sqft (0.11 acre) within the study area. The majority of the California oatgrass grassland is in Section 2 with three distinct occurrences totaling 4,005.15 sqft (0.09 acre; Figure 3). One California oatgrass grassland occurrence is in Section 1 with a total of 446.07 sqft (0.01 acre; Figure 2) and two California oatgrass grassland occurrences are in Section 3 with a total of 612.64 sqft (0.01 acre; Figure 4). The majority of the California oatgrass grassland occurrences do not meet an association level description, however the largest California oatgrass grassland mapped within the study area (Section 2, Figure 3) is best described using the *Stipa pulchra* association as there is a low percentage of purple needlegrass present within the grassland dominated by California oatgrass. California oatgrass within the study area displayed a wide range of dominance by California oatgrass. High quality examples exhibited up to 70 percent cover by California oatgrass, however most were less than 50 percent cover by California oatgrass, ripgut brome (*Bromus diandrus*), and Purdy's iris (*Iris purdyi*) among others. California oatgrass grassland within the study area is generally on open, herbaceous dominated slopes with varied aspects, primarily in areas with some amount of irregular mowing.



California oatgrass grassland does not have a global rarity rank (GNR), but has a State heritage rank of S3, therefore qualifying for consideration under California Environmental Qualifications Act (CEQA) Guidelines checklist IVb. Releve' Data Sheet 2 documents representative conditions within the California oatgrass grasslands in the study area and this data point was located within a small, lower quality California oatgrass grassland southeast of the Wallan Tank site (Appendix 4).

9.0 Special-status Botanical Species

Based on a review for special-status plant species, 46 special-status botanical species were identified as occurring within the Garberville and surrounding USGS quadrangles (Appendix 3, Table 1). A total of 11 special-status botanical species were determined to have a moderate or high potential of occurring within the study area. Species with moderate or high potential of occurring within the study area are listed below:

- northern clustered sedge (Carex arcta)
- Humboldt County fuchsia (Epilobium septentrionale)
- streamside daisy (Erigeron biolettii)
- coast fawn lily (Erythronium revolutum)
- bristly leptosiphon (*Leptosiphon acicularis*)
- broad-lobed leptosiphon (Leptosiphon latisectus)
- heart-leaved twayblade (Listera cordata)
- white-flowered rein orchid (Piperia candida)
- North Coast semaphore grass (Pleuropogon hooverianus)
- Siskiyou checkerbloom (Sidalcea malviflora ssp. patula)
- Methuselah's beard lichen (Usnea longissima)

A total of 315 botanical species were observed within the study area, reflecting the varied habitat occurring within the study area and are recorded in Appendix 3, Table 3. Of the 315 botanical species, 50 percent are native species. Seasonally-appropriate surveys of the study area did not locate any special-status botanical species. Habitat exists within the study area for a number of the special-status botanical species documented as potentially occurring within the study area, including wetland areas, grassland, and forested areas. No special-status botanical species, or other reasons. The findings in this Assessment represent conditions at the time of the surveys and it is possible that false negative surveys for rare plant species could occur; however, the surveys were conducted over a two-year period (2022 and 2023), significantly reducing the potential for false negative results. This Assessment documents the 2022 and 2023 field investigations, and the findings presented here are based on best professional judgment.

10.0 Special-status Animal Species

Based on a review for special-status animal species, 37 special-status animal species have been reported from the region consisting of the Garberville quadrangle and surrounding quadrangles (Appendix 3, Table 2). Of the special-status animal species potentially occurring in the region, 27 animal species are considered to have no or low potential to occur at the project site and 10 species have a moderate to high potential to occur at the project site. Species with a moderate or high potential for occurrence within the study area are listed below.



10.1 Amphibians

The **red-bellied newt** (*Taricha rivularis*) is not listed under either the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), but is considered a Species of Special Concern (SSC) by CDFW and has heritage ranks of G2/S2. This species breeds in streams and adults live in terrestrial environments within coniferous and riparian forests and woodlands. There is suitable terrestrial habitat available for adults and juveniles within the forested portions of the study area. Logs were turned within the study area to search for amphibians. This species was not observed during site visits, although the ephemeral drainages within the study area may provide dispersal habitat for this species. With the incorporation of the recommendation to avoid and minimize impacts to wetlands/waters, this species is not expected to be affected by the project.

10.2 Birds

The **American peregrine falcon** (*Falco peregrinus anatum*) is delisted under FESA and CESA and has heritage rankings of G4T4/S3S4. This species occurs in forested areas, open areas with rocky outcroppings, and often near water bodies. They nest on cliff ledges, sometimes in hollow or broken snags or large trees, and also use ledges of buildings, bridges, or other structures. This species was not observed during site visits, although portions of the study area provides urban nesting habitat for this species while the surrounding landscape provides higher quality nesting and foraging habitat. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

The **cooper's hawk** (*Accipiter cooperii*) is not listed under FESA or CESA but it is on the Watch List by CDFW and has heritage rankings of G5/S4. This species occurs in forested habitats, including cismontane woodlands and riparian forests. Cooper's hawk prefers open, interrupted, or marginal forests, allowing for increased foraging opportunities. Nest sites are usually in deciduous forested riparian areas. Suitable nesting habitat is available within the forested portions of the study area, although no nests of this species were observed during site visits. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

The **olive-sided flycatcher** (*Contopus cooperi*) is not listed under FESA or CESA, but it is a SSC by CDFW and has heritage rankings of G4/S3. This species occupies various forest and woodland habitats, including mixed coniferous-deciduous forest, and wetland/riparian forested areas. Nest sites are usually in coniferous trees, often with nearby large dead snags. Suitable nesting habitat is available within the forested portions of the study area. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

The **osprey** (*Pandion haliaetus*) is not listed under FESA or CESA but is on the Watch List by CDFW and has heritage rankings of G5/S4. This species can be found within riparian forests, shores, bays, lakes and larger streams. They build large nests on broken treetops or human-made structures within 15 miles of a fish-bearing body of water. Suitable nesting habitat is available within the forested portions of the study area, where some broken treetops were observed, although no nests of this species were observed during site visits. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on nesting birds.

10.3 Fishes

There are no special-status fish with potential to occur within the study area due to lack of suitable stream connectivity and seasonal, ephemeral water flows.



10.4 Insects

There are no special-status insects with moderate or high potential to occur within the study area due to lack of adequate suitable habitat.

10.5 Mammals

The **pallid bat** (*Antrozous pallidus*) is not listed under FESA or CESA and has heritage rankings of G4/S3. This species inhabits a variety of forested habitats such as broadleaf upland forest, cismontane woodland, closed-cone conifer forest, lower and upper montane conifer forest, and north coast conifer forest. They are most common in open, dry habitats with rocky areas for roosting. A focused bat presence survey was not conducted, although limited suitable roosting habitat is available within the portions of the study area away from town. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts to roosting bats.

The **North American porcupine** (*Erethizon dorsatum*) is not listed under either FESA or CESA, but has a heritage ranking of G5/S3. This species is a generalist herbivore found in a wide variety of coniferous and mixed woodland habitat. They are commonly found on the ground or in trees. Denning can occur in rocky areas, or if not available, in hollowed-out trees. This species was not observed during site visits, although suitable habitat is available within the forested portions of the study area. Due to project activities being focused on existing infrastructure replacement within developed areas, this species is not expected to be affected by the project.

The **fringed myotis** (*Myotis thysanodes*) is not listed under either FESA or CESA but is considered a sensitive species by the Bureau of Land Management (BLM) and has a heritage ranking of G4/S3. This species feeds on beetles, moths, flies, leafhoppers, lacewings, crickets, spiders, harvestmen, and other invertebrates. The fringed myotis roosts in rock crevices, caves, buildings, and mines as well as large snags generally in small clusters of females. Males roost alone or in small separate colony. A focused bat presence survey was not conducted, although suitable habitat is available within the forested portions of the study area and adjacent buildings. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on roosting bats.

The **long-eared myotis** (*Myotis evotis*) is not listed under either FESA or CESA but is considered a sensitive species by the BLM and has a heritage ranking of G5/S3. This species feeds on a variety of arthropods including moths, flies, spiders, and especially beetles. The long-eared myotis roosts singly, or in small groups in buildings, crevices, spaces under bark and snags. Caves are used primarily as night roosts. A focused bat presence survey was not conducted, although suitable habitat is available within the forested portions of the study area and adjacent buildings. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on rooting bats.

The **Yuma myotis** (*Myotis yumanensis*) is not listed under either FESA or CESA but is considered a sensitive species by the BLM and has a heritage ranking of G5/S4. This species is found in a variety of western lowland habitats, from arid thorn scrub to coniferous forest, but always close to standing water such as lakes and ponds. This species may roost in a variety of places such as buildings and bridges, trees, and rocks. A focused bat presence survey was not conducted, although suitable habitat is available within the forested portions of the study area and adjacent buildings, though standing water is limited. Section 14.0 Recommendations provides strategies for minimizing or avoiding impacts on rooting bats.



10.6 Reptiles

No special-status reptiles have potential to occur within the study area due to lack of suitable habitat.

10.7 Designated Critical Habitat

The nearest Designated Critical Habitat exists approximately 0.2 miles to the west within the Eel River and is mapped for Steelhead and Chinook salmon. This habitat is on the opposite side of U.S. Highway 101 from the project area; however, there is hydrologic connectivity through the five streams that occur within or adjacent to the study area. Streams will be avoided with suitable buffers, and proper stormwater best management practices (BMPs) will be utilized to prevent the introduction of sediment or other contaminants. As such, this habitat will not be affected by the project. The next nearest Designated Critical habitat exists approximately 2 miles to the northwest of the project area and is mapped for the marbled murrelet. This habitat will not be affected by the project due to its distance from the project areas.

10.8 Nesting Bird Habitat

All areas of vegetation and some urban development structures may provide suitable nesting habitat for a wide variety of birds. There is the potential for significant impacts to nesting birds during construction without the incorporation of mitigation. To minimize impacts to nesting bird species, pre-construction surveys for nesting birds are recommended as mitigation for the proposed project as described in Section 14.0 Recommendations.

10.9 Wildlife Movement Corridors

The ephemeral drainages, streams, grassland, and forested areas within the study area provide potential movement corridors for animals. These areas are to remain largely unimpacted and will not be significantly modified by project activities. The only permanent fencing proposed by the project is security fencing immediately around the proposed water tanks, which would not cause disruption of wildlife movement. Therefore, there are no anticipated negative effects on wildlife movement corridors as a result of the project.

10.10 Special-status Animal Species Summary

No special-status animal species were detected during the surveys, although it is possible that specialstatus species could be found within the project area at some point. However, the lack of high-quality habitat compared to the surrounding landscape makes it unlikely that special-status species would remain on site during construction.

11.0 Wetland and Other Waters Results

Wetland field investigations were conducted on April 12, 15, and 27, 2022, and February 17, and May 9 and 10, 2023. Ten wetland features and five streams were mapped within or near the study area. Streams and wetlands outside of the study area but immediately adjacent to proposed project activities were mapped for planning and setback purposes. The results from the wetland investigation within each of the study area sections are described below, including wetland and stream conditions. See Figure 1 for the location of each study area section, Figure 2 for Section 1 wetland and stream conditions, Figure 3 for Section 2 wetland and stream conditions, and Figure 4 for Section 3 wetland and stream conditions. The Wetland Determination Data Forms and OHWM Delineation Datasheets for each test pit and OHWM delineation point are included in Appendix 5.



11.1 Section 1—Wallan Tank Site and Pump Station

This area is a dry, sloping, well drained upland and had no evidence of wetland hydrology or hydrophytic vegetation; therefore, no test pits were excavated (Figure 2). The existing Wallan Tank has a small leak, which has created a small, isolated wet depression that was not considered to be a wetland due to its completely artificial nature in an otherwise upland and well-drained setting (Appendix 6, Photo 1).

A steep forested ravine immediately east of the Wallan Tank site contains Stream #1. Stream #1 is a seasonal intermittent stream flowing north to south within a steep ravine approximately 50 feet elevation lower than the location of Wallan Tank. The stream occurs approximately 100 feet east of the existing Wallan Tank at its nearest point and is outside of the study area (Figure 2). Approximately 191 feet of Stream #1 was mapped (Figure 2; Appendix 6, Photo 2); however, the stream reach up slope and downslope are unknown. It is likely that the stream flows through the steep forested ravine and into Bear Canyon which flows to the Eel River a Traditional Navigable Waterway (TNW). See Appendix 5, OHWM Datasheet 1 for detailed conditions within Stream #1.

The Wallan Pump Station in the southwestern portion of the Section 1 study site did not have any wetland or OHWM features and is very steep and well drained.

11.2 Section 2—Robertson Tank, Arthur Pump Station, and CalFire Station

Three wetlands were observed within this portion of the study area (Figure 3). Wetland #1 occurs within a roadside swale on the west side of Alderpoint Road across from the junction of Wallan Road and Alderpoint Road (Figure 3). Wetland conditions are restricted to the low point within the roadside swale (Appendix 6, Photo 3). While the roadside swale was constructed to capture stormwater, most of the swale is dry without wetland conditions. Wetland conditions are restricted to a 176-sqft area. Stormwater input likely enhances wetland conditions; however, the disappearance of wetland conditions within the swale downslope of Wetland #1 suggests that wetland conditions in Wetland #1 are a result of groundwater or other hydrologic input. The location of Wetland #1 is within a swale at the base of a large hillslope cut, and it is possible that a groundwater table was intercepted and is providing localized hydrologic input at this location. As such, this wetland is considered artificially induced, but has become a naturalized wetland. All three wetland parameters are present in Wetland #1 and the wetland likely has above-ground connectivity to Bear Canyon and the Eel River (a TNW), via the roadside ditch and other water conveyance infrastructure. Dominant species include common rush (Juncus effusus ssp. pacificus [FACW]), tall fescue (Festuca arundinacea [FAC]), and Himalayan blackberry (Rubus armeniacus [FAC]). Hydric soil indicators Depleted Matrix (F3) and Depleted Below a Dark Surface (A11) indicate localized long-term saturation. Wetland hydrology indicators of High-Water Table, Saturation, Geomorphic Position (artificial), and a vegetation community meeting the FAC-Neutral Test were present. See Table 3 for Cowardin classification and Figure 3 for the location of Wetland #1. See Appendix 5, TP1 Wetland Determination Data Form for detailed conditions within Wetland #1 and TP2 Data Form for upland conditions within the swale immediately downslope from Wetland #1.

Wetland #2 occurs within an artificial flat area downslope of the Robertson Tank and north of Alderpoint Road (Figure 3; Appendix 6, Photo 4). Stormwater from Alderpoint Road collects within this flat area, and leaks from the Robertson Tank have until recently flowed down the slope and into this flat area, likely enhancing wetland conditions within Wetland #2. Wetland #2 occupies approximately 428-sqft of the low-sloped area, specifically in low points that collect water. Wetland #2 likely has above-ground



connectivity to Bear Canyon and the Eel River (a TNW), via the roadside ditch and culvert under Alderpoint Road and other water conveyance infrastructure. Although this area is artificially manipulated, conditions within Wetland #2 have normalized, and it is considered a naturally-occurring wetland. All three wetland parameters are present in Wetland #2. Dominant species include spreading rush (*Juncus patens* [FACW]), pennyroyal (*Mentha pulegium* [OBL]), and Oregon ash (*Fraxinus latifolius* [FACW]). Hydric soil indicators Depleted Matrix (F3) and Depleted Below a Dark Surface (A11) show localized long-term saturation. Wetland hydrology indicators of an Algal Mat (B4), Drainage Patterns (B10), and a vegetation community that meets the FAC- Neutral Test (D5) were present. See Table 3 for Cowardin classification and Figure 3 for the location of Wetland #2. See Appendix 5, for the TP3 Wetland Determination Data Form for detailed conditions within Wetland #2 and TP4 Data Form for upland conditions around Wetland #2.

Wetland #3 occurs in a shallow swale at the break in slope where the steep hillslope meets the mostly flat topography of the hillside bench which contains the CalFire Station. Wetland #3 is approximately 2,244-sqft and appears to be mostly naturally-occurring as a result of the microtopography of the area and the movement of groundwater and surface water off of the hillslope, which has resulted in a seasonal seep that provides wetland hydrology during the wet season. A shallow artificial swale extends across the hillslope to the northwest, which captures stormwater from the slope and directs it to the wetland, which further enhances wetland hydrology conditions. This swale has in turn developed wetland conditions and is mapped as part of Wetland #3 (Figure 3; Appendix 6, Photo 7). All three parameters are present in Wetland #3, with vegetation dominance of Himalayan blackberry [FAC], Harford's sedge (Carex harfordii [OBL]), and rough-stalk blue grass (Poa trivialis [FAC]). The well-formed hydric soils denote long-term saturation, with indicators of Depleted Below Dark Surface (A11) and Depleted Matrix (F3). The soils were saturated up to 3 inches with a water table at 10 inches, meeting the hydrology indicators High Water Table (A2) and Saturation (A3), in addition to the Geomorphic Position (D2) and FAC-Neutral Test (D5). See Table 3 for Cowardin classification and location of Wetland #3. See Appendix 5, for the TP27 Wetland Determination Data Form for detailed conditions within Wetland #3 and TP28 Data Form for upland conditions around Wetland #3. Wetland #3 appears to be an isolated wetland with no evident above-ground connectivity to other features.

A small anthropogenic feature with three wetland parameters was found along the north side of Alderpoint Road near the CalFire Station. Exploratory pits were used to investigate this feature. It was determined not to be jurisdictional as the three-parameters are due only to its use as a stormwater conveyance feature for Alderpoint Road. It is actively maintained with regular mowing. There are tire tracks through it from road use. The substrate is composed of compacted gravel and asphalt.

No streams occur within Section 2 of the study area. A small ephemeral stream was observed just outside of the northwest corner of the study area near the CalFire entrance. This stream is culverted under Alderpoint Road and the CalFire Station and the outfall for this stream is unknown. No project activities are proposed in this area and the stream was not mapped due to lack of access to private property on the north side of Alderpoint Road.

11.3 Section 3—Tobin Well Site and Hurlbutt/Main Tank Sites

Seven wetlands and four streams occur within this portion of the study area (Figure 4) reflecting the more natural conditions and moist forested hillslope conditions surrounding downtown Garberville. All seven wetlands are in forested settings with seasonal to perennial saturation, and many have a history of excavation or other disturbance. Streams are seasonal intermittent or ephemeral streams. Wetlands are discussed in Section 11.3.1 and streams are described in Section 11.3.2.



No wetlands were observed within the Tobin Well portion of the study area. An undeveloped lot displayed weak hydrophytic vegetation dominance and evidence of hydrology as a result of stormwater flows from adjacent developed lots. This area was investigated with a test pit (Appendix 5, TP5) but no hydric soils indicators were observed, indicating transitory hydrology, which does not persist long enough for the development of hydric soils; therefore, no wetland is mapped at this location.

11.3.1 Section 3 Wetland Descriptions

Wetland #4 occurs within a roadside swale and on a portion of the slope above the east side of Hillcrest Drive (Figure 4). Wetland conditions begin on a slope above Hillcrest Drive within a naturally-occurring wetland seep; however, wetland hydrology was captured by the inboard ditch along Hillcrest Drive, which has caused the entire inboard ditch to develop persistent and pronounced wetland conditions (Appendix 6, Photo 8). Although the inboard ditch portion of the wetland was constructed, natural hydrologic input from the wetland seep and connectivity to the existing natural wetland has caused the inboard ditch to become a naturally-occurring wetland with artificial conditions present. Wetland conditions are restricted to a 564-sqft area. Stormwater input likely enhances wetland conditions within the inboard ditch portion of the wetland during storm events; however, the disappearance of wetland conditions within the inboard ditch further downslope suggests that persistent wetland conditions are a result of hydrologic input from the natural portion of the wetland on the slope above Hillcrest Drive. All three wetland parameters are present in Wetland #4. Dominant species include arroyo willow (Salix lasiolepis [FACW]), Pacific willow (Salix lasiandra var. lasiandra [FACW]), Himalayan blackberry, Henderson's sedge, and tall fescue. Hydric soil indicator Depleted Matrix (F3) indicates localized longterm saturation and wetland hydrology indicators of Saturation (A3) a Dry Season Water Table (C2), and a vegetation community meeting the FAC-Neutral Test (D5) were present. This wetland appears to be isolated with no observed above-ground connectivity to other wetland or other waters. See Table 3 for the Cowardin classification and location of Wetland #4. See Appendix 5, TP8 Wetland Determination Data Form for detailed conditions within Wetland #4, TP9 Data Form for upland conditions within the inboard ditch immediately downslope of Wetland #4, and TP7 Data Form for transitional conditions on the hillslope adjacent to Wetland #4.

Wetland #5 occurs on an embankment above the east side of Hilcrest Drive (Figure 4; Appendix 6, Photo 9). Wetland conditions are restricted to a 189-sqft area, some of which is outside of the study area. Hydrology is likely provided by groundwater at the surface as a result of a historical bank cut for the development of Hillcrest Drive. Although excavation of the slope for road development likely exposed groundwater, natural hydrologic input and the development of wetland conditions makes this an artificially induced but naturally-occurring wetland. All three wetland parameters are present in Wetland #5. Dominant species include California blackberry, pennyroyal, and velvet grass. Hydric soil indicator Depleted Matrix (F3) indicates localized long-term saturation and wetland hydrology indicators of Saturation (A3), Water-Stained Leaves (B9), and a vegetation community meeting the FAC-Neutral Test (D5) were present. Wetland #5 has above-ground connectivity to Stream #2, which flows through a series of streams to the Eel River (a TNW); however, wetland conditions are restricted to the area shown on Figure 4. See Table 3 for the Cowardin classification and location of Wetland #5. See Appendix 5, TP10 Wetland Determination Data Form for detailed conditions within Wetland #5, and TP11 Data Form for surrounding upland conditions.

Wetland #6 occurs within a basin created by historical fill placement for the Hillcrest Road prism within a naturally-occurring ravine containing Stream #2 (Figure 4; Appendix 6, Photo 10). Development of the roadway blocked Stream #2 (Appendix 6, Photo 11), which flows into Wetland #6 causing water to pool and develop wetland conditions. No culvert was observed within the basin and it appears that Stream



#2 flows are directed into the inboard ditch on the southeast side of Hillcrest Drive/Melville Road. Wetland conditions are restricted to the lowest elevations within the basin for a total of 385 sqft and the entire wetland is just outside of the study area. While development of Hillcrest Drive/Melville Road created a basin in which water can collect, it is located within a naturally-occurring ravine with a naturally-occurring stream making this an artificially induced but naturally-occurring wetland. Two wetland parameters are present in Wetland #6, with hydrophytic vegetation dominance lacking. Vegetation composition was determined to be problematic and does not reflect the wetland conditions evidenced by the presence of hydric soil and wetland hydrology. Dominant species include Himalayan blackberry, fringe cups (Tellima grandiflora [FACU]), sword fern, and English ivy. Recent vegetation removal and dominance by English ivy likely obscure hydrophytic vegetation dominance or have altered cover within the area such that it does not currently reflect wetland conditions. Hydric soil indicator Depleted Matrix (F3) indicates localized long-term saturation and wetland hydrology indicators of High-Water Table (A2), Saturation (A3), Drainage Patterns (B10), and Geomorphic Position (D2) were present. Wetland #6 has above-ground connectivity to Stream #2, which flows through a series of streams to the Eel River (a TNW); however, wetland conditions are restricted to the area shown on Figure 4. See Table 3 for Cowardin classification and location of Wetland #6. See Appendix 5, TP12 Wetland Determination Data Form for detailed conditions within Wetland #6, and TP13 Data Form for surrounding upland conditions.

Wetland #7 is located in a shallow swale between a trailer park and a motel at the base of a forested hillslope (Figure 4). Stormwater runoff from the trailer park above the wetland is directed to a swale that runs behind the motel building and into Wetland #7 (Appendix 6, Photo 12) likely enhancing wetland hydrologic conditions. All three wetland parameters occur within this wetland which is approximately 1,362 sqft. Dominant vegetation species are mostly non-native invasive species, including Himalayan blackberry, tall fescue, London plane tree (*Platanus hispanica* [NL]), and the native Harford's sedge. The soils have hydric indicators of Depleted Below Dark Surface (A11) and Depleted Matrix (F3), with hydrology indicators of Surface Water (A1), High Water Table (A2), Saturation (A3), and Geomorphic Position (D2). Because of the minimal swale depression in this graded surface, the outer boundaries of Wetland #7 were poorly defined with transitional edges, and the wetland appears to be artificially induced as a result of surrounding development. Wetland #7 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP21 Wetland Determination Data Form for detailed conditions within Wetland #7, and TP22 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #7.

Wetland #8 is located midslope within a dry, steeply-sloping forested hillside. Wetland #8 represents unique wetland seep habitat and appears to be naturally formed within a slope failure slump which has exposed the groundwater table to the surface (Figure 4; Appendix 6, Photo 13). It is approximately 483 sqft, and it is confined to the narrow slump feature. Wetland conditions diminish downslope of the slope failure slump and disappear as groundwater infiltrates back into the soil. All three wetland parameters were met at this site and are strongly developed. Dominant vegetation included arroyo willow, Himalayan blackberry, giant chain fern (*Woodwardia fimbriata* [FACW], western lady fern (*Athyrium filix-femina* var. *cyclosorum* [FAC], and English Ivy. Hydric soil indicators included Depleted Below Dark Surface (A11), Loamy Gleyed Matrix (F2), and Depleted Matrix (F3), with hydrology indicators of Surface Water (A1), Saturation (A3), Oxidized Rhizospheres along Living Roots (C3), Water-Stained Leaves (B9), Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5). Wetland #8 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP23 Wetland Determination Data Form for detailed conditions within Wetland #8, and TP24 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #8.



Wetland #9 is located on a slope above Redwood Drive. The hillslope has been cut to form a bank and graded pad for the existing motel, which is immediately downslope from the wetland (Figure 4; Appendix 6, Photo 14). The historical excavation appears to have intercepted a wet season water table, which seeps into and pools within the flat graded area below the excavated slope, creating an approximate 306-sqft wetland. All three wetland parameters were met at this site. Dominant vegetation within the wetland included arroyo willow, Himalayan blackberry, Scotch broom (*Cytisus scoparius* [NL]), spreading rush, and bigleaf periwinkle (*Vinca major* [FACU]). Hydric soil indicators observed included Depleted Below Dark Surface (A11) and Depleted Matrix (F3), with the wetland hydrology indicator, Saturation (A3), present at 10 inches. Wetland #9 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP27 Wetland Determination Data Form for detailed conditions within Wetland #9, and TP28 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #9.

Wetland #10 is a small 401-sqftwetland directly above U.S. Highway 101 (Figure 4; Appendix 6, Photo 15). This entire area was excavated for the construction of U.S. Highway 101, and the excavation appears to have intercepted a groundwater table, allowing for saturation at the surface even on a steep excavated slope. A naturally-occurring porous gravel layer over a thin clay duripan at 18 inches helps hold the seepage water long enough to create wetland habitat and support the development of wetland conditions. All three wetland parameters occur within this wetland. Dominant vegetation species included Douglas fir, arroyo willow, Scotch broom, Himalayan blackberry, and lady fern [FAC]. Hydric soil indicators observed were the Depleted Below Dark Surface (A11) and the Depleted Matrix (F3), with the primary wetland hydrology indicator Saturation (A3) at 10 inches. Wetland #10 appears to be an isolated wetland with no above-ground connectivity to additional wetlands or other waters. See Appendix 5, TP19 Wetland Determination Data Form for detailed conditions within Wetland #10, and TP20 Data Form for surrounding upland conditions. See Table 3 for the Cowardin classification and location of Wetland #10.

One additional wetland is shown outside of the study area on Figure 4 near the Stream #5 drainage inlet (DI) east of U.S. Highway 101. This is shown for reference and setback and avoidance purposes only. This feature was not delineated, and the boundary and extent shown is an estimate.

11.3.2 Section 3 Stream Descriptions

Stream #2 is a seasonal intermittent stream flowing northwest toward the town of Garberville. The stream originates upslope of Hillcrest Drive outside of the study area, and this portion of the stream is not mapped. The stream flows through a culvert under Hillcrest Drive and into a steep ravine (Appendix 6, Photo 11). The stream passes in and out of the study area; however, a portion of the stream is mapped for approximately 255 feet as shown on Figure 4. The stream flows into Wetland #6 where OHWM conditions disappear. It is likely that most flows are infiltrated into the soil within the wetland and that larger stormwater related flows are directed into an inboard ditch along Melville Road, as no culvert exists under Hillcrest Drive. Stream flows are contained within the inboard ditch along the road for approximately 270 feet before flowing into a DI at the bottom of the slope. It is unknown where the culvert takes the stream flows and connectivity to other streams including the Eel River (a TNW), while assumed, is unknown. See Appendix 5, OHWM Datasheet 5 for detailed conditions within Stream #2.

Stream #3 is a seasonal intermittent stream flowing northwest toward the town of Garberville. The stream originates upslope of a private paved driveway outside of the study area, and this portion of the stream is not mapped. The stream flows through a culvert under the private driveway and into a steep ravine (Appendix 6, Photo 16), which is outside of the study area; however, a small portion of the stream



is mapped for approximately 84 feet as shown on Figure 4. It is unknown where the stream flows to beyond what is shown on Figure 4, and connectivity to other streams including the Eel River (a TNW), while assumed, is unknown. See Appendix 5, OHWM Datasheet 3 for detailed conditions within Stream #3.

Stream #4 is an ephemeral stream dependent upon storm events for flows. The stream headwaters occur within a partially excavated and manipulated swale that collects water from impervious surfaces associated with a residence and a sloping pasture surrounded by forested slopes. Stream conditions become more pronounced and incised with natural conditions down slope (Appendix 6, Photo 17) where pooled water was observed even during the July botanical surveys. A total of 427.72 linear feet of Stream #4 is mapped on Figure 4, which is the entire stream reach between the headwaters and the culvert under U.S. Highway 101. It is assumed that the stream flows under U.S. Highway 101 via the culvert and eventually into the Eel River (a TNW). See Appendix 5, OHWM Datasheet 2 for detailed conditions within Stream #4.

Stream #5 is a seasonal intermittent stream flowing west along the southern edge of the study area. No portion of this stream is within the study area and it was mapped for reference and setback purposes. The stream appears minimally disturbed within the mapped portion before it enters a culvert under U.S. Highway 101 (Appendix 6, Photo 18). Although the stream is outside of the study area, approximately 853 feet was mapped, as shown on Figure 4. It is unknown where the stream flows to beyond what is shown on Figure 4, and connectivity to other streams while assumed, is unknown; however, it likely flows to the Eel River (a TNW) on the west side of the highway. See Appendix 5, OHWM Datasheet 4 for detailed conditions within Stream #5.

12.0 Conclusions

12.1 Biological Results

This section summarizes the results of the research and field investigations conducted within the study area.

A total of 315 botanical species were observed within the study area (Appendix 3, Table 3), however no special-status botanical species were observed within the study area. Although potential habitat exists for several special-status botanical species, existing and surrounding development, and continuing and historical disturbance associated with roadsides, urban development, and water distribution maintenance make it unlikely that special-status species exist within the study area. See the Recommendations section for measures to reduce potential impacts to botanical species during the life of the proposed project.

Two sensitive vegetation communities were observed during seasonally-appropriate protocol surveys. This included purple needlegrass grassland and California oatgrass meadow, both of which are S3 sensitive vegetation communities. These vegetation communities were observed in multiple locations throughout the study area for a total of 26,977.87 sqft (0.62 ac) of purple needlegrass grassland mapped and a total of 5,063.86 sqft (0.12 ac) of California oatgrass meadow mapped. These sensitive vegetation communities should be avoided, and measures taken to reduce impacts. If impacts are unavoidable then the measures included in the Recommendations section of this report should be followed.

Although potential habitat exists for a number of special-status animal species (see Appendix 3, Table 2), existing and surrounding development, and continuing and historic disturbance in the majority of the



study area make it unlikely that any special-status animal species exist within the project footprint. The project activities will be conducted primarily within existing developed areas with temporary disturbance to wildlife. Critical habitat for Steelhead, Chinook salmon, and Marbled murrelet is mapped at such a distance and without direct connectivity from the study area to not be affected by the project (USFWS, 2022a). Some bats may have the potential to roost in crevices of the water tanks proposed for demolition, as well as any trees that may require trimming or removal as part of the project activities. Nearly all areas of the project may support native nesting birds during the breeding season (generally March 15 to August 31) and may be affected by construction activities. See the Recommendations section for measures to reduce potential impacts to roosting bats and nesting birds during the life of the proposed project.

12.2 Wetland and OHWM Results

A total of ten wetlands were observed within or immediately adjacent to the study area (Figures 2-4 and Table 3). Wetlands ranged between 176 and 2,244 sqft in open herbaceous dominated or forested settings for a total of 6,538 sqft of wetlands mapped, of which 5,838 sqft occurs within the study area (see Table 3). Of the 10 wetlands occurring within the study area, 3 are palustrine emergent (herbaceous dominated), 6 are palustrine forested, and 1 is palustrine shrub-scrub wetland. All wetlands displayed some form of historical or on-going anthropogenic disturbance mostly related to road development, reflecting the proximity of the study area to roadsides. Four of the wetlands (Wetland #1, #2, #5, and #6) have above-ground connectivity to a TNW; the remaining six wetlands appear to be isolated with no above-ground connectivity to additional wetlands or other waters. Wetlands with above-ground connectivity to a TNW have a total area of 1,178 sqft.

A total of five streams were mapped within the study area and the immediate vicinity of the study area (Figures 2-4 and Table 3). Of the five streams, four are seasonal intermittent (Streams #1, #2, #3, and #5) and one of the streams is ephemeral (Stream #4). Of the five streams, two do not enter the study area, but flow within the immediate vicinity of the study area. These were mapped for planning and setback purposes. Streams #2 and #4 have portions of the stream within the study area for a total of 538 linear feet of stream occurring within the study area. A total of 1,543 linear feet of streams have been mapped within and immediately adjacent to the study area. This represents a fraction of the total stream length within the area, as only sections of streams within or immediately adjacent to the study area were mapped.

All streams and wetlands are sensitive to disturbance and are protected within the state of California. Wetlands within roadside ditches and other regularly maintained areas that are subject to regular maintenance may not be impacted by the project beyond the normal disturbance regimes experienced in any given year. Impacts to streams and wetlands can be reduced using the measures included in Section 13. Table 2 lists all test pits excavated within the study area and includes the location and wetland parameters observed. Table 3 includes all wetlands and streams observed within or immediately adjacent to the study area, including a center point and Cowardin classification. The conclusions in this report represent conditions at the time of field work and it is possible that some species or wetland conditions were not present at the time of the fieldwork. This report documents the investigation conducted using the best professional judgment of SHN's biologists, botanists, and soil scientist.



TP ^a Parameters					
Number	Present	Parameter Type	Latitude/Longitude		
TP1	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.107328°/ -123.785234°		
TP2	1	Hydrology	40.107276°/ -123.785288°		
TP3	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.105849°/ -123.786279°		
TP4	0	None	40.105832°/ -123.786248°		
TP5	2	Hydrophytic Vegetation, Hydrology	40.100379°/ -123.792372°		
TP6	0	None	40.095421°/-123.793278°		
TP7	2	Hydrophytic vegetation, Hydrology	40.097236°/-123.791489°		
TP8	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.097243°/-123.791494°		
TP9	0	None	40.097868°/-123.791623°		
TP10	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.097096°/-123.791654°		
TP11	0	None	40.097116°/-123.791507°		
TP12	2	Hydric soils, Hydrology	40.097742°/-123.792291°		
TP13	0	None	40.097752°/-123.792331°		
TP14	0	None	40.095442°/-123.793774°		
TP15	0	None	40.095160°/-123.792261°		
TP16	2	Hydrophytic vegetation, Hydrology	40.094943°/-123.792644°		
TP17	0	None	40.094654°/-123.793137°		
TP18	0	None	40.095018°/-123.793193°		
TP19	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.095418°/-123.794582°		
TP20	0	None	40.095396°/-123.794566°		
TP21	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.096789°/-123.794666°		
TP22	0	None	40.096873°/-123.794747°		
TP23	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.096128°/-123.793953°		
TP24	0	None	40.096152°/-123.793930°		
TP25	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.105112°/-123.789426°		
TP26	1	Hydric soils	40.105163°/-123.789394°		
TP27	3	Hydrophytic vegetation, Hydric soils, Hydrology	40.096135°/-123.794846°		
TP28	1	Hydric soils	40.096109°/-123.794837°		

Table 2.Parameters at Each Test Pit, April 2022, and February and April 2023Garberville, Humboldt County, California

^a TP: test pit



Wetland	Cowardin Type	Latitude/Longitude	Area Mapped (Sq ft)	In Study Area (Sq ft)	
Wetland #1	PEM1Bx0n ^a	40.107323°/ -123.785221°	176	26	
Wetland #2	PEM1Bx0n ^a	40.105844°/ -123.786265°	428	428	
Wetland #3	PEM1B0n ^b	40.105112°/-123.789426°	2,244	2,198	
Wetland #4	PFO1Bx0n ^c	40.097241°/ -123.791494°	564	564	
Wetland #5	PFO1Bx0n ^d	40.097097°/ -123.791654°	189	70	
Wetland #6	PFO4Dx0n ^d	40.097741°/ -123.792289°	385	0	
Wetland #7	PFO1Bx0n ^d	40.096789°/-123.794666°	1,362	1,362	
Wetland #8	PFO1+3D0n ^e	40.096128°/-123.793953°	483	483	
Wetland #9	PSS1Bx0n ^f	40.096135°/-123.794846°	306	306	
Wetland #10	PFO4BxOn ^g	40.095418°/-123.794582°	401	401	
	6,538	5,838			
Stream	Cowardin Type	Latitude/Longitude	Segment Mapped (feet)	In Study Area (feet)	
Stream #1	R4SB3+4 ^h	40.107649°, -123.769978°	191	0	
Stream #2	R4SB3+5 ⁱ	40.097571°, -123.791894°	255	110	
Stream #3	R4SB3+4 ^h	40.096173°, -123.792022°	84	0	
Stream #4	R6SB4+5 ^j	40.095392°, -123.793482°	160	428	
Stream #5	R4SB3+4 ^h	40.093909°, -123.793151°	853	0	
	Total Stream Segments Mapped				

Table 3.Wetland and OHWM Delineation Results
Garberville, Humboldt County, California

^a PEM1Bx0n: Palustrine emergent persistent seasonally saturated, excavated, freshwater, mineral soils

^b PEM1B0n: Palustrine emergent persistent seasonally saturated, freshwater, mineral soils

^c PFO1Bx0n: Palustrine forested broad-leaved deciduous seasonally saturated, excavated, freshwater, mineral soils

^d PFO4Dx0n: Palustrine forested needle-leaved evergreen continuously saturated, excavated, freshwater, mineral soils

^e PFO1+3D0n: Palustrine forested broad-leaved deciduous seasonally and continuously saturated, excavated, freshwater, mineral soils

^f PSS1Bx0n: Palustrine scrub-shrub broad-leaved deciduous seasonally saturated, excavated, freshwater, mineral soils

^g PFO4BxOn: Palustrine forested needle-leaved evergreen seasonally saturated, excavated, freshwater, mineral soils

 $^{\rm h}$ R4SB3+4: Riverine, intermittent, streambed cobble-gravel and sand.

ⁱ R4SB3+5: Riverine, intermittent, streambed cobble-gravel and mud

^j R6SB4+5: Riverine, ephemeral, streambed sand and mud



13.0 Recommendations

SHN recommends that the following measures be implemented prior to or during project activities to minimize the potential impacts to special-status plant and animal species, sensitive habitat, and wetlands:

- Implement the following avoidance and protection measures for sensitive natural communities (purple needlegrass grassland and California oatgrass grassland) that would not be impacted during project construction:
 - 1. Attempt to avoid or minimize impacts to sensitive natural communities to the greatest extent feasible in the final design plans.
 - 2. Sensitive natural communities should be clearly identified in the construction documents and reviewed by the District prior to issuing for bid to ensure they are clearly marked as equipment exclusion zones during construction.
 - 3. Prior to construction, temporary fencing should be installed between the sensitive vegetation communities and the project if construction activities will occur within 50 feet of the sensitive vegetation community, to prevent accidental incursion.
- If impacts to mapped sensitive natural communities (purple needlegrass grassland and California oatgrass grassland) are unavoidable and mapped purple needlegrass grassland or California oatgrass grassland is removed or detrimentally impacted, mitigation should occur. A Mitigation and Monitoring Plan should be prepared in coordination with the CDFW. The Plan should be acceptable to the CDFW and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. The ratio and conditions of mitigation would be negotiated in consultation with the CDFW. The Plan would be implemented by the District.
- Implement the following avoidance and protection measures for Waters of the United States and Waters of the State that would not be impacted (filled or excavated) during project construction:
 - 1. The District should attempt to avoid or minimize impacts to wetlands/waters to the greatest extent feasible in the final design plans.
 - 2. Wetlands/waters should be clearly identified in the construction documents and reviewed by the District prior to issuing for bid to ensure they are clearly marked as equipment exclusion zones during construction.
 - 3. Suitable perimeter control BMPs, such as silt fences, or straw wattles should be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These BMPs should be installed prior to any clearing or grading activities.
- Avoid fill of jurisdictional wetlands and waters to the extent feasible. If fill cannot be avoided, the District should compensate for the loss of wetland habitat so that there is no net loss in wetlands. The District should compensate for impacts to identified wetlands through restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1. A Mitigation and Monitoring Plan should be prepared in coordination with the North Coast Regional Water Quality Control Board (NCRWQCB), the USACE and CDFW. Compensation for wetlands should



occur so there is no net loss of wetland habitat at ratios to be determined in consultation with the NCRWQCB. The Plan should be acceptable to the regulatory agencies with jurisdiction over wetlands and waters and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. The Plan would be implemented by the District.

- Within two weeks prior to construction, a qualified bat biologist should conduct habitat surveys for special-status bats. Survey methodology should include visual examination of suitable habitat areas and signs of bat use. Trees, water tanks, Pump Stations, and other potential bat habitats within at least 100 feet of construction activities should be examined. If habitat exists, species presence and site use patterns should be documented by using ultrasonic detectors to determine if special-status bat species are present on site. Bat presence in the project area may vary seasonally and annually. Surveys should be conducted in a manner to detect the presence of hibernating or torpid bats, reproductive colonies and/or migratory stop-over roosts. If no bat utilization or roosts are found, then no further study or action is required. If bats are found to be present within an area of potential impact, or presence is assumed, a bat specialist should be engaged to advise the best method to prevent impact. This may include, but would not be limited to:
 - Consultation with the CDFW to determine appropriate measures for protecting bats with young if present, and for implementing measures to exclude non-breeding bat colonies during construction process.
 - For trees, phased removal of trees where selected limbs and branches not containing cavities are removed on the first day, with the remainder of the tree removed on the second day.
 - For structures, gradual modification of the habitat itself discouraging continued roosting by any bats that may be present, followed by installing physical barriers to prevent bats from entering the structure(s).
- To avoid potential impacts to nesting birds, in accordance with the Migratory Bird Treaty Act (MBTA), one of the following shall be implemented:
 - Conduct vegetation removal and other ground-disturbance activities associated with any construction activities between September and mid-March, when birds are not typically nesting,
 - If vegetation removal, structure modification or removal, or ground-disturbing activity is to take place during the nesting season (March 15 to August 31 for most birds), a qualified biologist shall conduct a pre-construction nesting bird survey. Preconstruction surveys for nesting pairs, nests, and eggs shall occur within the construction limits and within 100 feet (200 feet for raptors) of the construction limits. If active nests are encountered, speciesspecific measures shall be prepared by a qualified biologist in consultation with the USFWS and CDFW, and implemented to prevent abandonment of the active nest.



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National Wetland Inventory and Drought Monitor



U.S. Fish and Wildlife Service **National Wetlands Inventory**

Alderpr-WallanRd



April 11, 2022

Wetlands

Estuarine and Marine Deepwater

- Estuarine and Marine Wetland
- Freshwater Pond

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

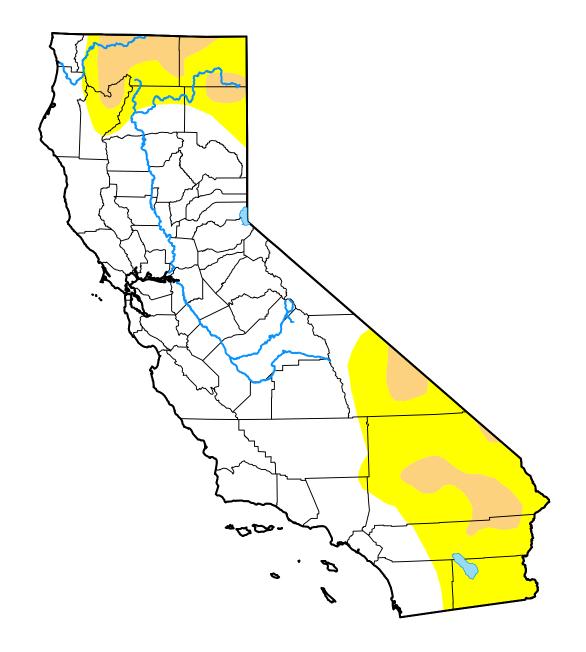
Lake Other Riverine

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.

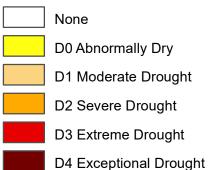
U.S. Drought Monitor California

April 11, 2023

(Released Thursday, Apr. 13, 2023) Valid 8 a.m. EDT



<u>Intensity:</u>



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

<u>Author:</u>

David Simeral Western Regional Climate Center

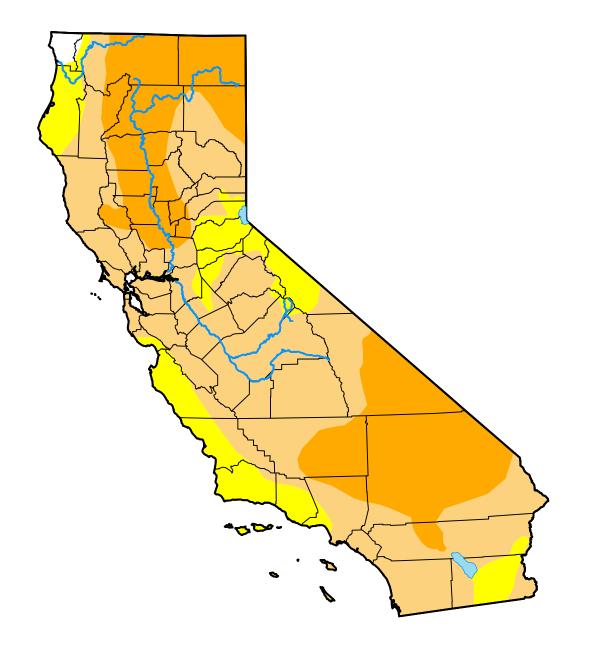


droughtmonitor.unl.edu

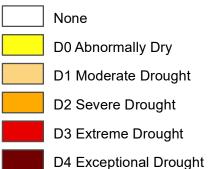
U.S. Drought Monitor California

February 14, 2023

(Released Thursday, Feb. 16, 2023) Valid 7 a.m. EST



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

<u>Author:</u>

Brian Fuchs National Drought Mitigation Center

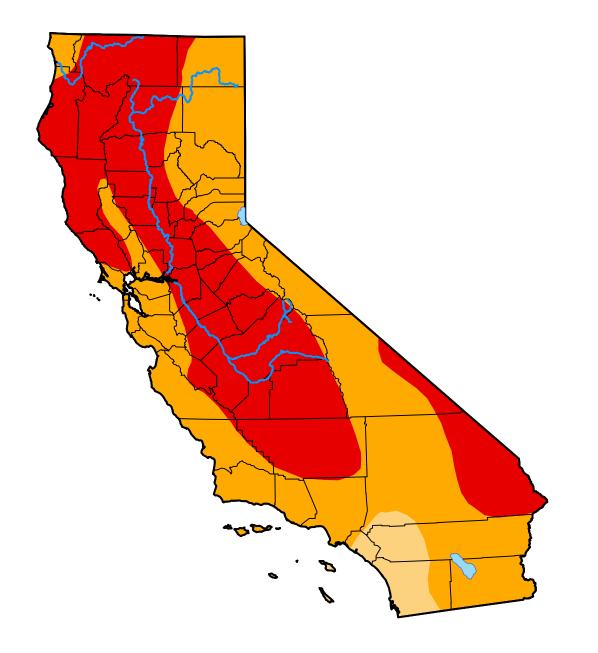


droughtmonitor.unl.edu

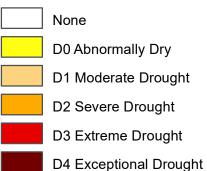
U.S. Drought Monitor California

April 12, 2022

(Released Thursday, Apr. 14, 2022) Valid 8 a.m. EDT







The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

<u>Author:</u>

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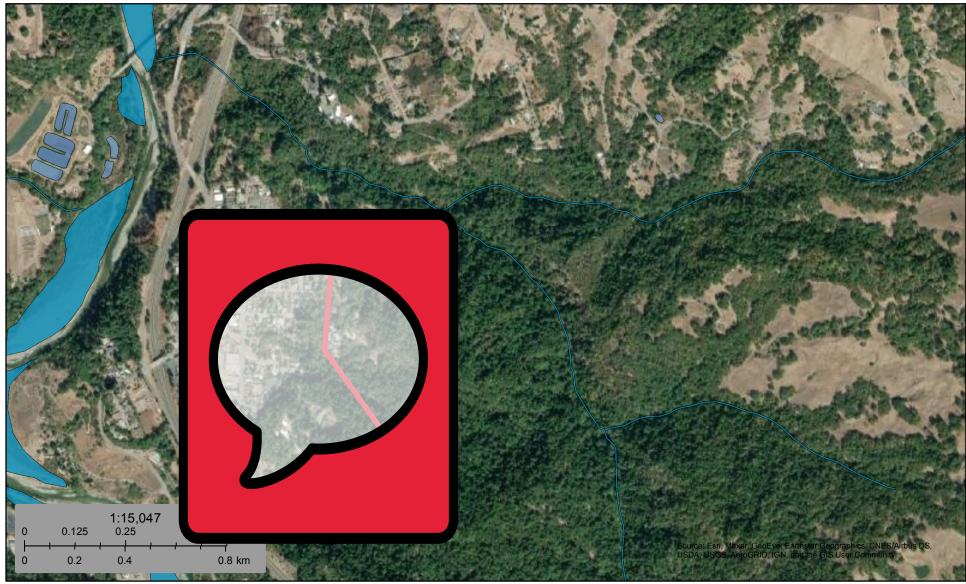


droughtmonitor.unl.edu



U.S. Fish and Wildlife Service **National Wetlands Inventory**

Garberville town



April 11, 2022

Wetlands

- Estuarine and Marine Wetland

Estuarine and Marine Deepwater

- Freshwater Pond

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Lake 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.

Web Soil Survey Map



United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

AlderpointRd



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



	MAP LEGEND			MAP INFORMATION	
Area of Int	erest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.	
Soils	Soil Map Unit Polygons	00 V	Very Stony Spot Wet Spot	Warning: Soil Map may not be valid at this scale.	
Special I	Soil Map Unit Lines Soil Map Unit Points Point Features	۵ •-	Other Special Line Features	Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed	
0 8	Biowout		atures Streams and Canals	scale.	
×	Clay Spot Closed Depression	Transport	Rails	Please rely on the bar scale on each map sheet for map measurements.	
×	Gravel Pit Gravelly Spot	US Routes Web Soil Coordina Major Roads Coordina Local Roads Maps froi projection distance Background Aerial Photography	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)		
0 A	Landfill Lava Flow		Local Roads	Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts	
六 歩 交	Marsh or swamp Mine or Quarry			distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.	
0	Miscellaneous Water Perennial Water			This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.	
~ +	Rock Outcrop Saline Spot			Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021	
**	Sandy Spot Severely Eroded Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.	
\$ \$	Sinkhole Slide or Slip			Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019	
ø	Sodic Spot			The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.	

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
402	Tannin-Wohly-Rockyglen complex, 50 to 75 percent slopes	0.1	1.2%
452	Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	0.3	3.5%
667	Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	6.9	95.3%
Totals for Area of Interest		7.2	100.0%

Map Unit Legend

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

402—Tannin-Wohly-Rockyglen complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: hs6x Elevation: 330 to 3,280 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 55 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 50 percent Wohly and similar soils: 20 percent Rockyglen and similar soils: 15 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tannin

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 6 inches: gravelly loam

Bt1 - 6 to 15 inches: gravelly loam

- Bt2 15 to 27 inches: gravelly loam
- Bt3 27 to 43 inches: gravelly loam
- Bt4 43 to 68 inches: gravelly loam
- Bt5 68 to 79 inches: gravelly loam

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B *Ecological site:* F005XZ022CA - Mesic Mountains >60"ppt *Hydric soil rating:* No

Description of Wohly

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Parent material: Residuum weathered from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 3 inches: loam

Bt1 - 3 to 8 inches: paragravelly loam

Bt2 - 8 to 19 inches: paragravelly clay loam

BCt - 19 to 36 inches: gravelly sandy clay loam

Ct - 36 to 79 inches: paragravel

Properties and qualities

Slope: 50 to 75 percent

Depth to restrictive feature: 20 to 39 inches to strongly contrasting textural stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) *Available water supply, 0 to 60 inches:* Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: C Ecological site: F005XZ009CA - Very Deep Mesic Hills 40-60"ppt Hydric soil rating: No

Description of Rockyglen

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 1 inches: very gravelly slightly decomposed plant material *A - 1 to 3 inches:* very gravelly loam *ABt - 3 to 9 inches:* very gravelly loam

Bt - 9 to 24 inches: very gravelly loam *Bw* - 24 to 47 inches: extremely cobbly loam *C* - 47 to 79 inches: extremely cobbly loam

Properties and qualities

Slope: 50 to 75 percent
Surface area covered with cobbles, stones or boulders: 5.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Minor Components

Burgsblock

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

452—Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hs7g Elevation: 200 to 3,280 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Burgsblock and similar soils: 35 percent Coolyork and similar soils: 30 percent Tannin and similar soils: 20 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear

Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 4 inches: gravelly loam

- Bt1 4 to 14 inches: very gravelly clay loam
- Bt2 14 to 51 inches: very gravelly clay loam
- Bt3 51 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Coolyork

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from schist

Typical profile

A1 - 0 to 8 inches: loam A2 - 8 to 14 inches: loam Bt1 - 14 to 23 inches: clay loam Bt2 - 23 to 41 inches: clay Bt3 - 41 to 57 inches: clay Bt4 - 57 to 63 inches: clay

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C/D Ecological site: F005XZ020CA - Very Deep Mesic Mountains 40-60"ppt Hydric soil rating: No

Description of Tannin

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 7 inches: loam

ABt - 7 to 13 inches: loam

Bt1 - 13 to 26 inches: sandy clay loam

Bt2 - 26 to 38 inches: sandy clay loam

Bt3 - 38 to 79 inches: sandy clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Minor Components

Rockyglen

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Wohly

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Hydric soil rating: No

Chalkmountain

Percent of map unit: 3 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Yorknorth

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: v6lh Elevation: 200 to 2,490 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Dryfield and similar soils: 40 percent Yorknorth and similar soils: 30 percent Witherell and similar soils: 15 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dryfield

Setting

Landform: Ridges, mountain slopes Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Linear Across-slope shape: Linear *Parent material:* Colluvium derived from sandstone and/or residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam

Bt1 - 4 to 19 inches: fine sandy loam

Bt2 - 19 to 41 inches: fine sandy loam

Bt3 - 41 to 59 inches: fine sandy loam

Bt4 - 59 to 79 inches: loam

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: B Ecological site: F005XZ013CA - Thermic Mountains Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Parent material: Colluvium derived from sandstone and/or earthflow deposits derived from schist

Typical profile

A1 - 0 to 6 inches: loam

A2 - 6 to 19 inches: loam

ABt - 19 to 26 inches: silt loam

Bt1 - 26 to 35 inches: clay loam

Bt2 - 35 to 53 inches: clay

C1 - 53 to 60 inches: clay loam

C2 - 60 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent *Depth to restrictive feature:* More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None

Frequency of ponding: None *Calcium carbonate, maximum content:* 2 percent *Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) *Available water supply, 0 to 60 inches:* High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Ecological site: R005XZ005CA - Thermic Hills Hydric soil rating: No

Description of Witherell

Setting

Landform: Mountain slopes, ridges Landform position (two-dimensional): Shoulder, summit Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: loam Bw - 3 to 8 inches: loam Bt - 8 to 12 inches: gravelly loam C - 12 to 79 inches: gravel

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: 10 to 14 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: R005XZ005CA - Thermic Hills Hydric soil rating: No

Minor Components

Coolyork

Percent of map unit: 10 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Burgsblock

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No



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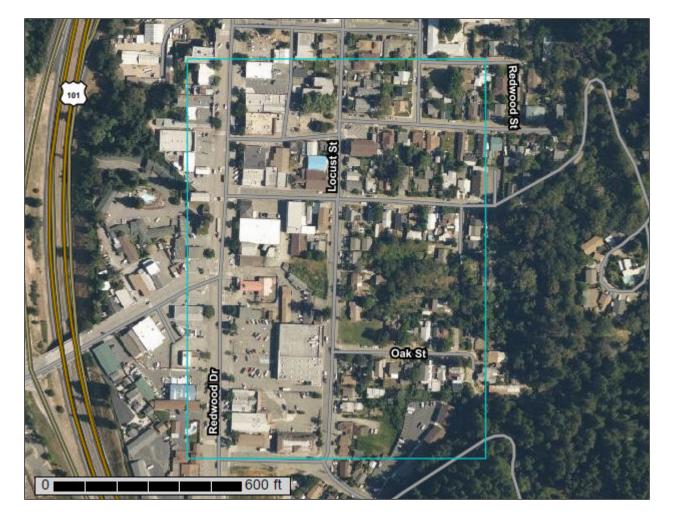
Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

Garberville town soils



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

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Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



	MAP LEGEND			MAP INFORMATION	
Area of Int	erest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.	
Soils	Soil Map Unit Polygons	00 V	Very Stony Spot Wet Spot	Warning: Soil Map may not be valid at this scale.	
Special I	Soil Map Unit Lines Soil Map Unit Points Point Features	۵ ••	Other Special Line Features	Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed	
0 8	Biowout		atures Streams and Canals	scale.	
×	Clay Spot Closed Depression	Transport	Rails	Please rely on the bar scale on each map sheet for map measurements.	
×	Gravel Pit Gravelly Spot	US Routes Web Soil Coordina Major Roads Coordina Local Roads Maps froi projection distance Background Aerial Photography	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)		
0 A	Landfill Lava Flow		Local Roads	Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts	
六 歩 交	Marsh or swamp Mine or Quarry			distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.	
0	Miscellaneous Water Perennial Water			This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.	
~ +	Rock Outcrop Saline Spot			Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021	
**	Sandy Spot Severely Eroded Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.	
\$ \$	Sinkhole Slide or Slip			Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019	
ø	Sodic Spot			The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.	

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
311	Urban land-Garberville complex, 5 to 15 percent slopes	26.2	94.0%
461	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	1.7	6.0%
Totals for Area of Interest		27.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

311—Urban land-Garberville complex, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qds5 Elevation: 200 to 660 feet Mean annual precipitation: 49 to 70 inches Mean annual air temperature: 48 to 59 degrees F Frost-free period: 240 to 300 days Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent Garberville and similar soils: 35 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Stream terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydric soil rating: No

Description of Garberville

Setting

Landform: Stream terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: loam AB - 7 to 20 inches: loam Bw1 - 20 to 33 inches: loam Bw2 - 33 to 47 inches: sandy clay loam Bw3 - 47 to 71 inches: sandy clay loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: R004BI202CA - Loamy Uplands Hydric soil rating: No

Minor Components

Parkland

Percent of map unit: 10 percent Landform: Stream terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Concave, linear Across-slope shape: Linear, concave Hydric soil rating: No

Gibsoncreek

Percent of map unit: 3 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Leggettcreek

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

461—Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: xhvy Elevation: 200 to 4,000 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 55 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 40 percent *Burgsblock and similar soils:* 25 percent *Rockyglen and similar soils:* 20 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tannin

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

Typical profile

- Oi 0 to 1 inches: slightly decomposed plant material
- A 1 to 7 inches: loam
- AB 7 to 24 inches: loam
- Bt1 24 to 43 inches: gravelly loam
- Bt2 43 to 59 inches: gravelly clay loam
- Bt3 59 to 79 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Burgsblock

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex *Parent material:* Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: gravelly slightly decomposed plant material

A - 1 to 8 inches: very gravelly silt loam

AB - 8 to 22 inches: very gravelly silt loam

Bt1 - 22 to 47 inches: very gravelly clay loam

Bt2 - 47 to 67 inches: very gravelly clay loam

Bt3 - 67 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Rockyglen

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from mudstone and/or residuum weathered

from sandstone

Typical profile

Oi - 0 to 2 inches: very gravelly slightly decomposed plant material

A1 - 2 to 6 inches: gravelly loam

A2 - 6 to 12 inches: very gravelly loam

Bw1 - 12 to 26 inches: extremely gravelly loam

Bw2 - 26 to 45 inches: extremely gravelly loam

C - 45 to 79 inches: extremely gravelly loam

Properties and qualities

Slope: 30 to 50 percent Surface area covered with cobbles, stones or boulders: 5.0 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Minor Components

Wohly

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No Custom Soil Resource Report



United States Department of Agriculture

Natural Resources Conservation

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Custom Soil Resource Report for Humboldt County, South Part, California

Garberville tank sites



Preface

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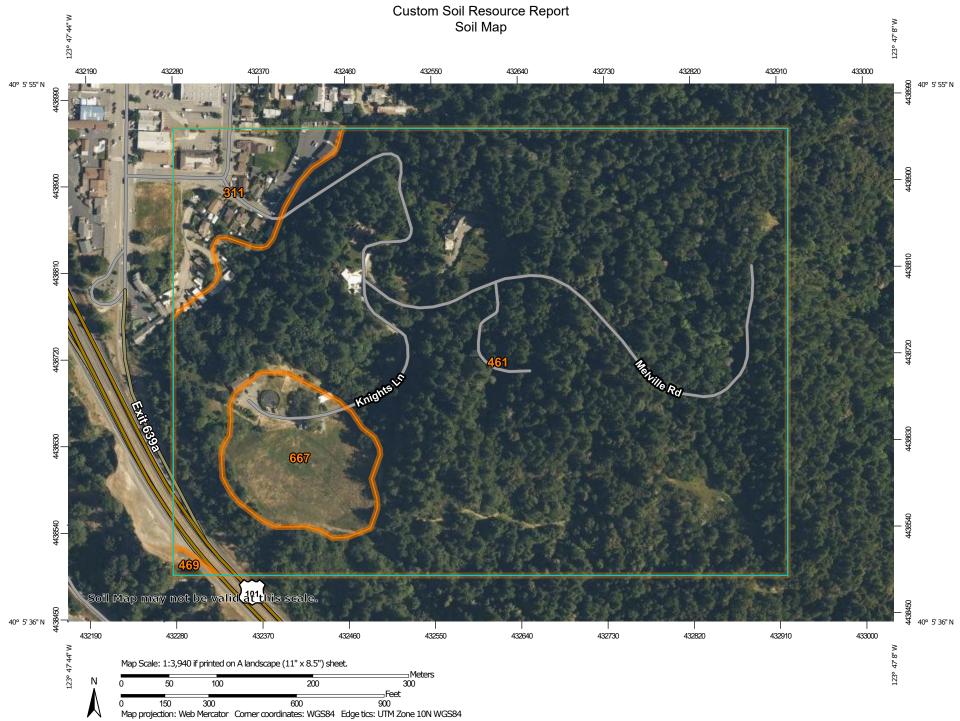
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667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	18

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



	MAP LEGEND)	MAP INFORMATION	
Area of Int	erest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.	
Soils	Soil Map Unit Polygons	00 V	Very Stony Spot Wet Spot	Warning: Soil Map may not be valid at this scale.	
Special I	Soil Map Unit Lines Soil Map Unit Points Point Features	Δ	Other Special Line Features	Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed	
0 8	Blowout		atures Streams and Canals	scale.	
×	Clay Spot Closed Depression	Transport	Rails measurements.	Please rely on the bar scale on each map sheet for map measurements.	
×	Gravel Pit Gravelly Spot	~	Interstate Highways US Routes Major Roads	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)	
0 A	Landfill Lava Flow	Backgrou	Local Roads	Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts	
六 歩 交	Marsh or swamp Mine or Quarry	Backgrou	Aerial Photography	distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data a of the version date(s) listed below. Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021	
0	Miscellaneous Water Perennial Water				
~ +	Rock Outcrop Saline Spot				
**	Sandy Spot Severely Eroded Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.	
\$ \$	Sinkhole Slide or Slip			Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019	
ø	Sodic Spot			The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.	

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
311	Urban land-Garberville complex, 5 to 15 percent slopes	4.7	6.3%
461	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	63.8	86.3%
469	Tannin-Burgsblock-Rockyglen complex, 50 to 75 percent slopes	0.2	0.3%
667	Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	5.3	7.2%
Totals for Area of Interest		73.9	100.0%

Map Unit Legend

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

311—Urban land-Garberville complex, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qds5 Elevation: 200 to 660 feet Mean annual precipitation: 49 to 70 inches Mean annual air temperature: 48 to 59 degrees F Frost-free period: 240 to 300 days Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent Garberville and similar soils: 35 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Stream terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydric soil rating: No

Description of Garberville

Setting

Landform: Stream terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: loam AB - 7 to 20 inches: loam Bw1 - 20 to 33 inches: loam Bw2 - 33 to 47 inches: sandy clay loam Bw3 - 47 to 71 inches: sandy clay loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: R004BI202CA - Loamy Uplands Hydric soil rating: No

Minor Components

Parkland

Percent of map unit: 10 percent Landform: Stream terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Concave, linear Across-slope shape: Linear, concave Hydric soil rating: No

Gibsoncreek

Percent of map unit: 3 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Leggettcreek

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

461—Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: xhvy Elevation: 200 to 4,000 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 55 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 40 percent *Burgsblock and similar soils:* 25 percent *Rockyglen and similar soils:* 20 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tannin

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

Typical profile

- Oi 0 to 1 inches: slightly decomposed plant material
- A 1 to 7 inches: loam
- AB 7 to 24 inches: loam
- Bt1 24 to 43 inches: gravelly loam
- Bt2 43 to 59 inches: gravelly clay loam
- Bt3 59 to 79 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Burgsblock

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex *Parent material:* Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: gravelly slightly decomposed plant material

A - 1 to 8 inches: very gravelly silt loam

AB - 8 to 22 inches: very gravelly silt loam

Bt1 - 22 to 47 inches: very gravelly clay loam

Bt2 - 47 to 67 inches: very gravelly clay loam

Bt3 - 67 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Rockyglen

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from mudstone and/or residuum weathered

from sandstone

Typical profile

Oi - 0 to 2 inches: very gravelly slightly decomposed plant material

A1 - 2 to 6 inches: gravelly loam

A2 - 6 to 12 inches: very gravelly loam

Bw1 - 12 to 26 inches: extremely gravelly loam

Bw2 - 26 to 45 inches: extremely gravelly loam

C - 45 to 79 inches: extremely gravelly loam

Properties and qualities

Slope: 30 to 50 percent Surface area covered with cobbles, stones or boulders: 5.0 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Minor Components

Wohly

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

469—Tannin-Burgsblock-Rockyglen complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: xhw0 Elevation: 200 to 3,280 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Tannin and similar soils: 40 percent *Burgsblock and similar soils:* 25 percent *Rockyglen and similar soils:* 20 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tannin

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material *A - 1 to 9 inches:* loam *ABt - 9 to 22 inches:* loam *Bt1 - 22 to 35 inches:* sandy clay loam *Bt2 - 35 to 67 inches:* gravelly sandy clay loam *Bct - 67 to 79 inches:* gravelly sandy clay loam

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Convex, linear

Across-slope shape: Linear, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

A - 0 to 7 inches: very gravelly loam

Bt1 - 7 to 24 inches: very gravelly loam

Bt2 - 24 to 39 inches: very gravelly clay loam

- Bt3 39 to 55 inches: very gravelly clay loam
- Bt4 55 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 50 to 75 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: C Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Description of Rockyglen

Setting

Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from mudstone and/or residuum weathered from sandstone

Typical profile

Oi - 0 to 2 inches: gravelly slightly decomposed plant material

A - 2 to 9 inches: very gravelly loam

AB - 9 to 22 inches: very gravelly loam

Bt1 - 22 to 39 inches: very gravelly loam

Bt2 - 39 to 63 inches: extremely gravelly loam

BC - 63 to 79 inches: extremely gravelly sandy clay loam

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Minor Components

Wohly

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Hydric soil rating: No

Coolyork

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Hydric soil rating: No

Chalkmountain

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: v6lh Elevation: 200 to 2,490 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Dryfield and similar soils: 40 percent Yorknorth and similar soils: 30 percent Witherell and similar soils: 15 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dryfield

Setting

Landform: Ridges, mountain slopes Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from sandstone and/or residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam Bt1 - 4 to 19 inches: fine sandy loam Bt2 - 19 to 41 inches: fine sandy loam Bt3 - 41 to 59 inches: fine sandy loam Bt4 - 59 to 79 inches: loam

Properties and qualities

Slope: 5 to 30 percent *Depth to restrictive feature:* More than 80 inches Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: B Ecological site: F005XZ013CA - Thermic Mountains Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Parent material: Colluvium derived from sandstone and/or earthflow deposits derived from schist

Typical profile

A1 - 0 to 6 inches: loam

A2 - 6 to 19 inches: loam

ABt - 19 to 26 inches: silt loam

Bt1 - 26 to 35 inches: clay loam

Bt2 - 35 to 53 inches: clay

C1 - 53 to 60 inches: clay loam

C2 - 60 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) *Available water supply, 0 to 60 inches:* High (about 10.7 inches)

Available water supply, 0 to 60 inches: High (about 10.7 i

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Ecological site: R005XZ005CA - Thermic Hills Hydric soil rating: No

Description of Witherell

Setting

Landform: Mountain slopes, ridges Landform position (two-dimensional): Shoulder, summit Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: loam Bw - 3 to 8 inches: loam Bt - 8 to 12 inches: gravelly loam C - 12 to 79 inches: gravel

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: 10 to 14 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: R005XZ005CA - Thermic Hills Hydric soil rating: No

Minor Components

Coolyork

Percent of map unit: 10 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Burgsblock

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No



United States Department of Agriculture

Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, South Part, California

WallanRd



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



	MAP L	EGEND		MAP INFORMATION
Area of Int	erest (AOI) Area of Interest (AOI)	0	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.
~	Area of Interest (AOI) Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Point Features Blowout Borrow Pit Clay Spot Closed Depression Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water	o o o v v v v v v v v v v v v v	Very Stony Spot Wet Spot Other Special Line Features tures Streams and Canals ation Rails Interstate Highways US Routes Major Roads Local Roads	 T:24,000. Warning: Soil Map may not be valid at this scale. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale. Please rely on the bar scale on each map sheet for map measurements. Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.
> + :: ⇒ > Ø	Saline Spot Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot			Soil Survey Area: Humboldt County, South Part, California Survey Area Data: Version 10, Sep 6, 2021 Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
452	Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	0.0	0.1%
667	Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	5.3	70.4%
673	Coolyork-Yorknorth complex, 30 to 50 percent slopes	2.2	29.4%
Totals for Area of Interest		7.6	100.0%

Map Unit Legend

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, South Part, California

452—Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hs7g Elevation: 200 to 3,280 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Burgsblock and similar soils: 35 percent Coolyork and similar soils: 30 percent Tannin and similar soils: 20 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Burgsblock

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex, linear

Across-slope shape: Linear, concave, convex

Parent material: Colluvium derived from sandstone and/or colluvium derived from mudstone and/or residuum weathered from sandstone and/or residuum weathered from mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 4 inches: gravelly loam

Bt1 - 4 to 14 inches: very gravelly clay loam

Bt2 - 14 to 51 inches: very gravelly clay loam

Bt3 - 51 to 79 inches: very gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent Surface area covered with cobbles, stones or boulders: 0.0 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) *Available water supply, 0 to 60 inches:* Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C *Ecological site:* F005XZ022CA - Mesic Mountains >60"ppt *Hydric soil rating:* No

Description of Coolyork

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from schist

Typical profile

A1 - 0 to 8 inches: loam

A2 - 8 to 14 inches: loam

Bt1 - 14 to 23 inches: clay loam

Bt2 - 23 to 41 inches: clay

Bt3 - 41 to 57 inches: clay

Bt4 - 57 to 63 inches: clay

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C/D Ecological site: F005XZ020CA - Very Deep Mesic Mountains 40-60"ppt Hydric soil rating: No

Description of Tannin

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material *A - 1 to 7 inches:* loam *ABt - 7 to 13 inches:* loam

Bt1 - 13 to 26 inches: sandy clay loam *Bt2 - 26 to 38 inches:* sandy clay loam *Bt3 - 38 to 79 inches:* sandy clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F005XZ022CA - Mesic Mountains >60"ppt Hydric soil rating: No

Minor Components

Rockyglen

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Wohly

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex, linear Across-slope shape: Linear, convex Hydric soil rating: No

Chalkmountain

Percent of map unit: 3 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Yorknorth

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank *Down-slope shape:* Concave, linear *Across-slope shape:* Concave, linear *Hydric soil rating:* No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

667—Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: v6lh Elevation: 200 to 2,490 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Dryfield and similar soils: 40 percent Yorknorth and similar soils: 30 percent Witherell and similar soils: 15 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dryfield

Setting

Landform: Ridges, mountain slopes Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Linear Across-slope shape: Linear Parent material: Colluvium derived from sandstone and/or residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam

- Bt1 4 to 19 inches: fine sandy loam
- Bt2 19 to 41 inches: fine sandy loam
- Bt3 41 to 59 inches: fine sandy loam
- Bt4 59 to 79 inches: loam

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: B Ecological site: F005XZ013CA - Thermic Mountains Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Parent material: Colluvium derived from sandstone and/or earthflow deposits derived from schist

Typical profile

A1 - 0 to 6 inches: loam A2 - 6 to 19 inches: loam ABt - 19 to 26 inches: silt loam Bt1 - 26 to 35 inches: clay loam Bt2 - 35 to 53 inches: clay C1 - 53 to 60 inches: clay loam C2 - 60 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C *Ecological site:* R005XZ005CA - Thermic Hills *Hydric soil rating:* No

Description of Witherell

Setting

Landform: Mountain slopes, ridges Landform position (two-dimensional): Shoulder, summit Landform position (three-dimensional): Upper third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: loam Bw - 3 to 8 inches: loam Bt - 8 to 12 inches: gravelly loam C - 12 to 79 inches: gravel

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: 10 to 14 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: B Ecological site: R005XZ005CA - Thermic Hills Hydric soil rating: No

Minor Components

Coolyork

Percent of map unit: 10 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Burgsblock

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex

Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

673—Coolyork-Yorknorth complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: v6lj Elevation: 200 to 2,490 feet Mean annual precipitation: 49 to 90 inches Mean annual air temperature: 52 to 59 degrees F Frost-free period: 240 to 280 days Farmland classification: Not prime farmland

Map Unit Composition

Coolyork and similar soils: 45 percent *Yorknorth and similar soils:* 40 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Coolyork

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Parent material: Colluvium derived from mudstone and/or colluvium derived from sandstone and/or residuum weathered from schist

Typical profile

- A 0 to 6 inches: loam
- ABt 6 to 19 inches: clay loam
- Bt1 19 to 31 inches: clay loam
- Bt2 31 to 49 inches: clay
- C1 49 to 63 inches: gravelly clay loam
- C2 63 to 79 inches: gravelly clay

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: F005XZ020CA - Very Deep Mesic Mountains 40-60"ppt Hydric soil rating: No

Description of Yorknorth

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank Down-slope shape: Concave, linear Across-slope shape: Concave, linear Parent material: Colluvium derived from sandstone and/or residuum weathered from schist and/or earthflow deposits derived from mudstone

Typical profile

A - 0 to 2 inches: loam

ABt - 2 to 12 inches: loam

Bt1 - 12 to 29 inches: clay loam

Bt2 - 29 to 33 inches: clay

Bt3 - 33 to 46 inches: clay

Bt4 - 46 to 50 inches: gravelly clay

BCt - 50 to 71 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 20 to 39 inches

Frequency of flooding: None Frequency of ponding: None Calcium carbonate, maximum content: 2 percent Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: R005XZ005CA - Thermic Hills Hydric soil rating: No

Minor Components

Witherell

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Dryfield

Percent of map unit: 4 percent Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Burgsblock

Percent of map unit: 3 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Concave, convex, linear Across-slope shape: Linear, concave, convex Hydric soil rating: No

Tannin

Percent of map unit: 2 percent Landform: Mountain slopes Landform position (two-dimensional): Shoulder, backslope, footslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Center third of mountainflank Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

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Species List

3

		Desie		· · · · ·		Appendix						
		Regioi	hally Occ		pecial-sta Garbervil			• •		B, CNPS, IPaC		
Colombifie	Comment		Fed	1	rville and	Surround	ding 7.5 r	_	1 · · · · ·		Mieure	Detential of
Scientific Name	Common Name	Family	Fed List	Cal List	Other Status	GRank	SRank	RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Arabis mcdonaldiana	McDonald's rockcress	Brassicaceae	E	E	SB_Berr ySB; SB_CalB G/RSAB G	G3	S3	1B.1	May-Jul	Lower montane coniferous forest, upper montane coniferous forest.	Rocky outcrops, ridges, slopes, and flats on serpentine. 150- 1830 m.	low
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	None	None	BLM_S; SB_CalB G/RSAB G; SB_USD A	G3T2	52	1B.1	Feb-Apr	Chaparral, Lower montane coniferous forest.	Disturbed openings in partially timbered forest lands; also along ridgelines; south aspects. 115-670 m.	low
Astragalus agnicidus	Humboldt County milk-vetch	Fabaceae	None	E	SB_Berr ySB; SB_CalB G/RSAB G	G2	S2	1B.1	Apr-Sep	Broadleaved upland forest, North Coast coniferous forest.	Disturbed areas, Openings, Roadsides (sometimes). 120-800 m above sea level.	low
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	None	None	-	G4T4	S4	4.3	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest.	30-825 m above sea level.	low
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	None	None	-	G4	S4	4.2	May- Aug	Bogs and fens, broadleaved upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest.	Mesic. Up to 455 m above sea level.	low



		Regior	ally Occ				t Species	Scoping I		B, CNPS, IPaC		
					ville and							
Scientific Name	Common Name	Family	Fed List	Cal List	Other Status	GRank		RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Calamagrostis foliosa	leafy reed grass	Poaceae	None	None	-	G3	S3	4.2	May- Sep	Coastal bluff scrub, North Coast coniferous forest.	Rocky cliffs and ocean-facing bluffs. 0-1220 m.	low
Carex arcta	northern clustered sedge	Cyperaceae	None	None	IUCN_L C	G5	S1	2B.2	Jun-Sep	Bogs and fens, North Coast coniferous forest.	Mesic sites. 60- 1405 m.	moderate
Castilleja litoralis	Oregon coast paintbrush	Orobranchacea e	None	None	-	G3	53	2B.2	Jun	Coastal bluff scrub, Coastal dunes, Coastal scrub.	15-100 m above sea level.	none
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobranchacea e	None	None	BLM_S	G2	52	1B.2	Apr-Aug	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub.	Often on sea bluffs or cliffs in coastal bluff scrub or prairie. 3-70 m.	none
Ceanothus foliosus var. vineatus	Vine Hill ceanothus	Rhamnaceae	None	None	-	G3T1	S1	1B.1	Mar- May	Chaparral.	Sandy, acidic soil in chaparral. 45- 305 m.	none
Ceanothus gloriosus var. exaltatus	glory brush	Rhamnaceae	None	None	-	G4T4	S4	4.3	Mar-Jun (Aug)	Chaparral.	30-610 m above sea level.	none
Coptis laciniata	Oregon goldthread	Ranunculaceae	None	None	-	G4?	S3?	4.2	(Feb) Mar- May	Meadows and seeps.	Mesic sites such as moist streambanks. 0- 1000 m.	low
Cypripedium californicum	California lady's- slipper	Orchidaceae	None	None	IUCN_E N	G4	S4	4.3	Jul-Sep	Broadleaved upland forest, North Coast coniferous forest.	Rocky (sometimes), Sandy (sometimes). 45-1800 m above sea level.	low



		Regio	nally Occ	urring S		Appendix Itus Plan			List CNDD	B, CNPS, IPaC		
		0			Garbervil ville and	le Sanita	tion Dist	rict 5/1/2	3			
Scientific Name	Common Name	Family	Fed List	Cal	Other Status	GRank		RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Epilobium septentrionale	Humboldt County fuchsia	Onagraceae	None	None	-	G4	S4	3	Jun-Oct	Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest.	Mesic, Rocky. 30-1100 m above sea level.	moderate
Erigeron biolettii	streamside daisy	Asteraceae	None	None	-	G3?	S3?	3	Jun-Oct	Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest.	Mesic, Rocky. 30-1100 m.	moderate
Erigeron robustior	robust daisy	Asteraceae	None	None	-	G3	S3	4.3	Jun-Jul	Lower montane coniferous forest, Meadows and seeps.	Serpentinite (sometimes). 200-610 m.	low
Eriogonum kelloggii	Kellogg's buckwheat	Polygonaceae	None	E	BLM_S	G2	S2	1B.2	(May) Jun-Aug	Lower montane coniferous forest.	Rocky, serpentine sites. 910-1190 m.	low
Erythronium citrinum var. citrinum	lemon- colored fawn lily	Liliaceae	None	None	-	G4T3T4	S3	4.3	Mar- May	Chaparral, Lower montane coniferous forest.	Serpentinite (usually). 150- 1300 m above sea level.	low
Erythronium oregonum	giant fawn lily	Liliaceae	None	None	-	G4G5	S2	2B.2	Mar-Jun (Jul)	Cismontane woodland, Meadows and seeps.	Openings, Rocky, Serpentinite (sometimes). 100-1150 m.	low
Erythronium revolutum	Coast fawn lily	Liliaceae	None	None	-	G4G5	53	2B.2	Mar-Jul (Aug)	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest.	Mesic, Streambanks. 0- 1600 m above sea level.	moderate
Gentiana setigera	Mendocino gentian		None	None	BLM_S	G2	S2	1B.2	(Apr-Jul) Aug-Sep	Lower montane coniferous forest, meadows and seeps.	Meadows, seeps and bogs. Serpentine substrates. 120- 1070 m.	low



		Regior	nally Occ	urring S		Appendix Itus Plant			List CNDD	B, CNPS, IPaC		
		-	-		Garbervill rville and							
Scientific Name	Common Name	Family	Fed List	Cal List	Other Status	GRank		RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniceae	None	None	-	G5T3	S2	1B.2	Apr-Aug	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland.	5-1665 m above sea level.	low
Hemizonia congesta ssp. tracyi	Tracy's tarplant	Asteraceae	None	None	-	G5T4	S4	4.3	(Mar) May-Oct	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest.	Openings, Serpentinite (sometimes). 120-1200 m.	low
Hosackia gracilis	harlequin lotus	Fabaceae	None	None	SB_CalB G/RSAB G; SB_UCS C	G3G4	53	4.2	Mar-Jul	Broadleaved upland forest, Cismontane woodland, Closed- cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland.	Roadsides. 0- 700 m.	low
Howellia aquatilis	water howellia	Fabaceae	Del	None	-	G3	S2	2B.2	Jun	Marshes and swamps.	1085-1290 m above sea level.	none
Kopsiopsis hookeri	small groundcon e	Polemoniaceae	None	None	-	G4?	S1S2	2B.3	Apr-Aug	North coast coniferous forest.	Open woods, shrubby places, generally on Gaultheria shallon. 120- 1435 m.	low
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	None	None	-	G4?	S4?	4.2	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland.	55-1500 m above sea level.	moderate



				•		ppendix						
		Region	nally Occ		pecial-sta Garbervill rville and	le Sanita	tion Dist	rict 5/1/23	3	B, CNPS, IPaC		
Scientific Name	Common Name	Family	Fed List	Cal	Other Status	GRank		RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Leptosiphon latisectus	broad- lobed leptosiphon	Polemoniaceae	None	None	-	G4	S4	4.3	May-Jul	Cismontane woodland, Lower montane coniferous forest.	Gravelly (sometimes), Rocky (sometimes). 1700-2000 m.	moderate
Leptosiphon rattanii	Rattan's leptosiphon	Polemoniaceae	None	None	-	G4	S4	4.3	May-Jul	Cismontane woodland, Lower montane coniferous forest.	Gravelly (sometimes), Rocky (sometimes). 1700-2000 m.	low
Lilium rubescens	redwood lily	Liliaceae	None	None	SB_USD A	G3	S3	4.2	Apr-Aug (Sep)	Broadleaved upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest.	Roadsides (sometimes), Serpentinite (sometimes). 30- 1910 m.	low
Listera cordata	heart- leaved twayblade	Orchidaceae	None	None	-	G5	S4	4.2	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest.	5-1370 m.	moderate
Lomatium engelmannii	Engelmann' s lomatium	Apiaceae	None	None	-	G4	S3	4.3	May- Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest.	870-2740 m.	low
Lycopus uniflorus	Northern bugleweed	Lamiaceae	None	- No ne	-	G5	S4	4.3	Jul-Sep	Bogs and fens, Marshes and swamps.	5-2000 m above sea level.	low
Mitellastra caulescens	leafy- stemmed miterwort	Saxifrgiaceae	None	None	-	G5	S4	4.2	(Mar) Apr-Oct	Broadleaved upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest.	Mesic, Roadsides (sometimes). 5- 1700 m.	low



		Regio	nally Occ				t Species	Scoping I		B, CNPS, IPaC		
Scientific Name	Common Name	Family	Fed List	Garber Cal List	rville and Other Status	Surround GRank		nin Quadı RPlant Rank	rangles Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Montia howellii	Howell's montia	Montiaceae	None	None	-	G3G4	52	2B.2	(Feb) Mar- May	Meadows and seeps, North Coast coniferous forest, Vernal pools.	Roadsides (sometimes), Vernally Mesic. 0-835 m.	low
Piperia candida	white- flowered rein orchid	Orchidaceae	None	None	-	G3	53	1B.2	(Mar) May- Sep	Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest.	Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m.	Moderate
Pityopus californicus	California pinefoot	Ericaceae	None	None	-	G4G5	54	4.2	(Mar- Apr) May- Aug	Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	15-2225 m above sea level.	low
Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	None	Т	SB_Berr ySB; SB_CalB G/RSAB G	G2	S2	1B.1	Apr-Jun	Broadleaved upland forest, Meadows and seeps, North Coast coniferous forest.	10-671 m above sea level.	moderate
Sedum eastwoodiae	Red Mountain stonecrop	Crassulaceae	None	None	BLM_S	G5T2	S2	1B.2	May-Jul	Lower montane coniferous forest.	600-1200 m above sea level.	low
Sidalcea malachroides	maple- leaved checker- bloom	Malvaceae	None	None	-	G3	S3	4.2	(Mar) Apr-Aug	Broadleaf upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland.	Woodlands and clearings near coast; often in disturbed areas. 4-765 m.	low
Sidalcea malviflora ssp. patula	Siskiyou checker- bloom	Malvaceae	None	None	-	G5T2	52	1B.2	(Mar) May- Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest.	15-1230 m above sea level.	moderate



		Region	ally Occ	urring S		ppendix				B, CNPS, IPaC		
		Kegion			Garbervill ville and	le Sanitat	tion Dist	rict 5/1/23	3	b, civrs, irac		
Scientific Name	Common Name	Family	Fed List	Cal	Other Status	GRank		RPlant Rank	Bloom Period	General Habitat	Micro- Habitat	Potential of Occurrence
Silene bolanderi	Bolander's catchfly	Caryophyllaceae	None	None	-	G2	S2	1B.2	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest.	Openings (usually), Roadsides (sometimes), Rocky (sometimes), Serpentinite (sometimes). 420-1150 m.	low
Silene greenei ssp. angustifolia	Red Mountain catchfly	Caryophyllaceae	None	E	BLM_S	G5T1	S1	1B.2	May-Jun	Chaparral, Lower montane coniferous forest.	Peridotite, Rocky, Serpentinite (usually). 425- 2085 m.	low
Tracyina rostrata	Beaked tracyina	Asteraceae	None	None	USFS_S	G2	S2	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland.	Open grassy meadows usually within oak woodland and grassland habitats. 150- 795 m.	low
Usnea longissimi	Methuselah 's beard lichen		None	None	BLM_S	G4	S4	4.2	N/A	Broadleaf upland forest, North Coast coniferous forest.	Grows in the "redwood zone" on tree branches of a variety of trees, including big leaf maple, oaks, ash, Douglas-fir, and bay. 45-1465 m in California.	moderate
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	None	None	-	G4G5	S3?	2B.3	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest.	215-1400 m above sea level.	low



		Region	ally Occ		Garbervill	le Sanitat	tion Dist	rict 5/1/23	3	9B, CNPS, IPaC				
Scientific	Garberville and Surrounding 7.5 min Quadrangles Scientific Common Fed Cal Other RPlant Bloom General Habitat Micro- Potential of													
Name	Name	Family	List	List	Status	GRank	SRank	Rank	Period	General Habitat	Habitat	Occurrence		
		assigned by Federa	•	•			2. 9	pecies Herita	age rank as	assigned by California Dep	artment of Fish a	nd Wildlife (CDFW)		
C: candidat		and California Dep FP: fully pr				vv)		G1/S1: crit	ically imperi	led				
	e threatened	PT: propos						G2/S2: imp						
D: delisted		SSC: specie		l concern				G3/S3: vuli						
	population segme								parently secu	ure				
E: endang		WL: watch	list					G5/S5: sec	ure					
	narily significant	unit												



		Reg	ionally Occ		ecial-sta Garbervi	Appendix 3, Table 2 itus Animal Species Sco ille Sanitation District Surrounding 7.5 min (S, IPaC	-
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
						Amphibians			
Ascaphus truei	Pacific tailed frog	None	None, SSC	G4	S3S4	Aquatic, Klamath/ N. coast flowing waters, Lower montane conifer, N. coast conifer, Redwood, and Riparian forests	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	None. No suitable habitat present.
Rana boylii	foothill yellow- legged frog	None	E (excluding the North Coast Clade), SSC	G3	S3	Aquatic, Chaparral, Cismontane woodland, coast scrub, Klamath/N. coast flowing waters, lower montane conifer forest, meadow & seep, riparian forest and woodland	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg- laying. Need at least 15 weeks to attain metamorphosis.	Low. Dispersal/wintering habitat
Rhyacotriton variegatus	southern torrent salamander	None	None, SSC	G3G4	S2S3	Lower montane conifer forest, old-growth, redwood forest, riparian forest.	Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	None. No suitable habitat present.



		Reg	ionally Occ		ecial-sta Garbervi	Appendix 3, Table 2 Itus Animal Species Sco Ille Sanitation District Surrounding 7.5 min (S, IPaC	
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence
Taricha rivularis	Red-bellied newt	None	None, SSC	G2	52	Broadleaved upland forest, North coast coniferous forest, Redwood, Riparian forest, Riparian woodland	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Moderate. Suitable non- breeding habitat available.
						Birds			
Accipiter cooperii	Cooper's hawk	None	None, WL	G5	S4	Cismontane woodland, riparian forest, upper montane coniferous forest.	Woodland, chiefly of open, interrupted, or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood plains; also, live oaks.	High. Suitable habitat present in forested areas of study area.
Brachyramp hus marmoratus	marbled murrelet	Т	E	G3G4	S1	Lower montane conifer forest, Old growth Redwood	Feeds near-shore; nests inland along coast from Eureka to Oregon border.	Nests in old-growth redwood-dominated forests, up to 6 mi. inland, often in Douglas-fir.	None. No suitable habitat present.
Charadrius alexandrinu s nivosus	western snowy plover	Т	None, SSC	G3T3	S2S3	Great Basin standing waters, Sand shore, Wetland	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	None. No suitable habitat present.



	Appendix 3, Table 2 Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023 Garberville and Surrounding 7.5 min Quadrangles												
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence				
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Т	E	G5T2T3	S1	Riparian forest	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	None. No suitable habitat present.				
Contopus cooperi	Olive-sided flycatcher	None	None, SSC	G4	S3	Occupy various forest and woodland habitats, including mixed coniferous-deciduous forest, burned-over forest, forested wetlands, and forested edges of riparian areas.	During non-breeding season, occupy wide variety of habitats from forested woodland to open areas with scattered trees, especially snags.	Nests are placed most often in conifers on horizontal limbs. Most nesting sites contain dead standing trees, used for singing and feeding perches.	High. Suitable habitat present in forested areas and forest edges within study area.				
Empidonax traillii brewsteri	little willow flycatcher	None	E, BCC	G5T3T4	S1S2	Meadow & seep, Riparian woodland	Mountain meadows and riparian habitats in the Sierra Nevada and Cascades.	Nests near the edges of vegetation clumps and near streams.	Low. Potential migration stop over habitat, no suitable nesting habitat.				
Falco peregrinus anatum	American peregrine falcon	D	D	G4T4	S3S4	Coniferous, hardwood and mixed woodlands, cliffs, bare rock.	Often near water bodies (lagoon, bay, river mouth), herbaceous wetland. Often forages in urban areas.	Nests on cliff leges, sometimes in hollow or broken snags or large trees. Also uses ledges of buildings, bridges, or other structures.	Moderate. Suitable habitat present in portions of the study area.				



		Reg	ionally Occ		ecial-sta	Appendix 3, Table 2 itus Animal Species Sc ille Sanitation District	oping List CNDDB, CNP 5/1/2023	S, IPaC	
Scientific Name	Common Name	FedList	CalList	Garber GRank	ville and SRank	Surrounding 7.5 min Habitats	Quadrangles General Habitat	Micro-Habitat	Potential of Occurrence
Haliaeetus leucocephal us	Bald eagle	D	E	G5	53	Lower montane coniferous forest Old growth.	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old- growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low. Suitable habitat may be available in the forested portion of the study area, foraging habitat adjacent.
Pandion haliaetus	osprey	None	None, WL	G5	S4	Riparian forest	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish- producing body of water.	Moderate. Suitable habitat may be available in the forested portion of the study area, foraging habitat adjacent.
Pelecanus occidentalis californicus	California brown pelican	D	D, FP	G4T3T4	S3	Offshore islands, harbors, estuaries and bays. Sometimes hunt at sea.	Rocky or vegetated islands, marinas, and shallow breakwaters.	Nest in colonies in secluded areas (often islands), vegetated sand dunes, shrubs and mangroves.	None. No suitable habitat present.
Psiloscops flammeolus	Flammulated owl	None	None	G4	5254	Mature mountain forests.	Relatively open, mature stands of Douglas-fir, fir, limber pine, and yellow pine, including burned forests. Prefer middle and upper slopes, avoiding lower elevations and valleys.	Breeds in dry mature mountain forests of ponderosa pine or other large coniferous trees.	Low. No typical habitat within the study area, though possibly surrounding.



	Appendix 3, Table 2 Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023 Garberville and Surrounding 7.5 min Quadrangles											
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence			
Strix occidentalis caurina	northern spotted owl	Т	Т	G3T3	S2S3	North coast conifer forest, Old growth Redwood	Old-growth forests or mixed stands of old- growth & mature trees. Occasional in younger forests w/ patches of big trees.	High, multistory canopy dominated by big trees, many trees w/cavities or broken tops, woody debris & space under canopy.	Low. Isolated and no typical habitat within the study area, though possibly surrounding.			
	I				1	Fish			0			
Accipenser meditostris pop. 2 Entosphenus	Green sturgeon (northern DPS) Pacific	None	None, SSC	G2T1 G4	S1 S3	Aquatic. Spends most of its life cycle in coastal marine waters, estuaries, and lower reaches of large rivers. Travels upriver to spawn. Aquatic, river mouth, tidal	Trinity, South Fork Trinity, and Eel Rivers in California.	Specific spawning and rearing habitats are poorly known and increasingly uncommon in major rivers within its range. Swift-current gravel-	None. No suitable habitat present. No adequate aquatic connectivity.			
tridentatus	lamprey					river, bay/sound	north of San Luis Obispo County, however, regularly runs in Santa Clara River. Size of runs is declining.	bottomed areas for spawning with water temps between 12-18 C. Amnocetes need soft sand or mud.	suitable habitat present.			
Oncorhynch us kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Т	т	G4T2Q	52?	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters	Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California.	the Oregon border and	None. No suitable habitat present. No adequate aquatic connectivity.			
Oncorhynch us mykiss irideus pop. 16	steelhead – N. California DPS	Т	None	G5T2- T3Q	S2S3	Aquatic Sacramento/San Joaquin flowing waters	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	Cool, swift, shallow water & clean loose gravel for spawning	None. No suitable habitat present. No adequate aquatic connectivity.			



		Reg	ionally Occ		ecial-sta	Appendix 3, Table 2 Itus Animal Species Sc ille Sanitation District	oping List CNDDB, CNP 5/1/2023	S, IPaC	
Scientific	Common	FedList	CalList			Surrounding 7.5 min (Habitats		Micro-Habitat	Potential of
Name	Name	reulist	CalList	GRAIK	SKATIK	nabitats	General Habitat	MICIO-Habitat	Occurrence
Oncorhynch us mykiss irideus pop. 36	summer-run steelhead trout	None	C, SSC	G5T4Q	S2	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters	No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.	Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.	None. No suitable habitat present. No adequate aquatic connectivity.
Oncorhynch us tshawytscha pop. 17	chinook salmon - California coastal ESU	Т	None	G5T2Q	52	Aquatic, Northern California flowing waters.	Includes naturally spawned populations spawning in streams from Redwood Creek, Humboldt County, south through the Russian River, Sonoma County, California	Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth and survival.	None. No suitable habitat present. No adequate aquatic connectivity.
		•			•	Insects			
Bombus caliginosus	Obscure bumblebee	None	None	G2G3	S1S2	Coastal prairies and coast range meadows.	Coastal areas from Santa Barbara County to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Low. Limited suitable habitat available.
Bombus occidentalis	western bumble bee	None	None	G2G3	S1	Pollinates a wide variety of flowers. Will gnaw through flowers to obtain nectar their tongues are too short to reach.	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Nest in cavities or abandoned burrows.	Low. Limited suitable habitat available.



	Appendix 3, Table 2 Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023 Garberville and Surrounding 7.5 min Quadrangles											
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence			
Danaus plexippus	Monarch butterfly	C	None	G4	SNR	North American populations highly migratory.	Overwintering habitats include coastal California conifer or Eucalyptus groves.	Breeding areas virtually all patches of milkweed in North America.	Low. No milkweed present. Limited suitable overwintering habitat available.			
	<u>.</u>					Mammals						
Antrozous pallidus	Pallid bat	None	None	G4	53	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland.	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate. Suitable habitat available in portions of the study area.			
Arborimus pomo	Sonoma tree vole	None	None, SSC	G3	S3	North coast conifer forest old-growth, redwood forest	N. coast fog belt from Oregon border to Sonoma Co. In Douglas-fir, redwood & montane hardwood-conifer forests.	Will occasionally take needles of grand fir,	Low. No typical habitat within the study area, though possibly surrounding.			
Erethizon dorsatum	North American porcupine	None	None	G5	S3	Broadleaf upland forest, cismontane woodland, closed-cone & N Coast conifer forest, lower & upper montane conifer forest	Forested habitat in the Sierra Nevada, Cascade, and Coast ranges, scattered observations from forested areas in the Transverse Ranges	Wide variety of coniferous and mixed woodland habitat.	Moderate. Suitable habitat available in forested portions of the study area.			



	Appendix 3, Table 2 Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023 Garberville and Surrounding 7.5 min Quadrangles												
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence				
Martes caurina humboldten sis	Humboldt marten	None	E, SSC	G4G5T1	S1	old-growth, Redwood forest	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County.	Associated with late- successional coniferous forests, prefer forests with low, overhead cover.	None. No suitable habitat present.				
Myotis evotis	long-eared myotis	None	None	G5	S3	Roosts in a wide range of substrate.	Found in all brush, woodland & forest habitats from sea level to about 9000 ft. prefers coniferous woodlands & forests.	Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	Moderate. Suitable habitat within portions of the study area.				
Myotis thysanodes	Fringed myotis	None	None	G4	S3	Low desert scrub, montane evergreen forest, and oak woodlands.	In a wide variety of habitats, optimal habitats are pinyon- juniper, valley foothill hardwood and hardwood-conifer.	Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Moderate. Suitable habitat within portions of the study area.				
Myotis yumanensis	Yuma myotis	None	None	G5	S4	Riparian forest, Riparian woodland, Upper montane coniferous forest.	Optimal habitats are open forests and woodlands with sources of water over which to feed.	tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Moderate. Suitable habitat within portions of the study area.				
Pekania pennanti	fisher (No. Calif./So. Oregon DPS)	None	None, SSC	G5	5253		Intermediate to large-tree stages of conifer forests & deciduous-riparian areas w/ high % canopy closure.	& rocky areas for cover & denning. Needs large	Low. No typical habitat within the study area, though possibly surrounding.				



	Appendix 3, Table 2 Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023 Garberville and Surrounding 7.5 min Quadrangles												
Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	General Habitat	Micro-Habitat	Potential of Occurrence				
						Reptiles							
Emys marmorata	western pond turtle	None	None, SSC	G3G4	S3	Aquatic, artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Low. Minimal, seasonal habitat available.				
						Mollusks							
Anodonta californiensi s	California floater	None	None	G3Q		Freshwater, shallow rivers, pools, creeks	Low elevation species found in both lakes and lake-like stream environments.	Slow-moving freshwater streams with mud or sand substrates, though have been found in rivers and creeks with gravel substrates.	None. No suitable habitat present. No adequate aquatic connectivity.				
Anodonta oregonensis	Oregon floater	None	None	G5	S2?	Aquatic	Low gradient rivers, lakes, and reservoirs.	Often share habitat with <i>A. californiensis</i> where their ranges overlap.	None. No suitable habitat present. No adequate aquatio connectivity.				
Noyo interessa	Ten mile shoulderban d	None	None	G2	S2	Coastal dunes, Coastal scrub, Redwood, Riparian forest.	Found in coastal dunes, coastal scrub, and riparian redwood forest habitats.		None. No suitable habitat present. No adequate aquatic connectivity.				

1. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)

C: candidate

CT: candidate threatened

D: delisted

DPS: distinct population segment

- E: endangered
- ESU: evolutionarily significant unit

FP: fully protected

PT: proposed threatened

SSC: species of special concern T: threatened

WL: watch list



	Appendix 3, Table 2 Regionally Occurring Special-status Animal Species Scoping List CNDDB, CNPS, IPaC Garberville Sanitation District 5/1/2023 Garberville and Surrounding 7.5 min Quadrangles											
Scientific Name	cientific Common FedList CalList GRank SRank Habitats General Habitat Micro-Habitat Potential of											
G1/S1: c G2/S2: ii G3/S3: v	ritically imperile mperiled ulnerable pparently secur	ed	California De	partment c	of Fish and	Wildlife (CDFW)						



	Appendix 3, Table 3						
	served 4/27/22, 5/9, 5/10, 7/5 le Sanitary District Study Are						
Scientific Name Common Name Family Nativ							
	Trees	· · ·					
Acacia dealbata	silver wattle	Fabaceae					
Acer macrophyllum	big leaf maple	Aceraceae	Y				
Aesculus californica	California buckeye	Sapindaceae	Y				
Alnus rhombifolia	white alder	Betulaceae	Y				
Arbutus menziesii	madrone	Ericaceae	Y				
Betula papyrifera	paper birch	Betulaceae	N				
Crataegus monogyna	English hawthorne	Rosaceae					
Fraxinus latifolia	Oregon ash	Oleaceae	Y				
Liquidamber styraciflua	liquid amber	Hamamelidaceae	Ν				
Malus pumila	cultivated apple	Rosaceae	Ν				
Notholithocarpus densiflorus var. densiflorus	tanoak	Fagaceae	Y				
Pinus ponderosa	ponderosa pine	Pinaceae	Y				
Pinus radiata	Monterey pine	Pinaceae	N				
Pinus sylvestris	Scotch pine	Pinaceae	N				
Platanus x hispanica	London plane tree	Platanaceae	Ν				
Populus alba	white cottonwood	Salicaceae	Ν				
Prunus avium	sweet cherry	Rosaceae	Ν				
Prunus cerasifera	wild plum	Rosaceae					
Pseudotsuga menziesii var. menziesii	Douglas fir	Pinaceae	Y				
Quercus chrysolepis	canyon live oak	Fagaceae	Y				
Quercus garryana var. garryana	Oregon white oak	Fagaceae	Y				
Quercus kelloggii	California black oak	Fagaceae	Y				
Rosa californica	California wild rose	Rosaceae	Y				
Salix lasiandra var. lasiandra	Pacific willow	Salicaceae	Y				
Salix lasiolepis	arroyo willow	Salicaceae	Y				
Salix sitchensis	Sitka willow	Salicaceae	Y				
Sequoia sempervirens	coast redwood	Cupressaceae	Y				
Umbellularia californica	California bay tree	Lauraceae	Y				
	Shrubs						
Arctostaphylos manzanita ssp. manzanita	common manzanita	Ericaceae	Y				
Baccharis pilularis ssp. consanguinea	coyote brush	Asteraceae	Y				
Ceanothus thyrsiflorus var. thyrsiflorus	blue blossom	Rhamnaceae	Y				
Corylus cornuta ssp. californica	beaked hazelnut	Betulaceae	Y				
Cotoneaster franchetii	Franchett cotoneaster	Rosaceae	I				
Cytisus scoparius	Scotch broom	Fabaceae	I				
Diplacus aurantiacus	sticky monkey flower	Phrymaceae	Y				
Frangula californica ssp. californica	California coffee berry	Rhamnaceae	Y				
Genista monspessulana	French broom	Fabaceae	I				
Heteromeles arbutifolia	toyon	Rosaceae	Y				
Holodiscus discolor var. discolor	ocean spray	Rosaceae	Y				
Phoradendron leucarpum ssp. tomentosum	oak mistletoe	Viscaceae	Y				
Pyracantha angustifolia	firethorn	Rosaceae					



Garbervi	lle Sanitary District Study Area	a	
Scientific Name	Common Name	Family	Native?
Rosa californica	California rose	Rosaceae	Y
Rosa gymnocarpa var. gymnocarpa	wood rose	Rosaceae	Y
Rosa rubiginosa	sweetbriar	Rosaceae	N
Rubus armeniacus	Himalayan blackberry	Rosaceae	I
Rubus leucodermis	California raspberry	Rosaceae	Y
Rubus parviflorus	thimbleberry	Rosaceae	Y
Rubus ursinus	California blackberry	Rosaceae	Y
Symphoricarpos albus	snowberry	Caprifoliaceae	Y
Vaccinium ovatum	evergreen huckleberry	Ericaceae	Y
	Sedges and Rushes		
Carex globosa	round fruit sedge	Cyperaceae	Y
Carex harfordii	Harford sedge	Cyperaceae	Y
Carex hendersonii	Henderson's sedge	Cyperaceae	Y
Carex leptopoda	slender foot sedge	Cyperaceae	Y
Carex tumulicola	foothill sedge	Cyperaceae	Y
Cyperus eragrostis	tall flat sedge	Cyperaceae	Y
Isolepis cernua	low bulrush	Cyperaceae	Y
Juncus bolanderi	Bolander's rush	Juncaceae	Y
Juncus bufonius var. bufonius	toad rush	Juncaceae	Y
Juncus capitatus	leafy bracted dwarf rush	Juncaceae	N
Juncus effusus ssp. pacificus	Pacific rush	Juncaceae	Y
Juncus occidentalis	Western rush	Juncaceae	Y
Juncus patens	spreading rush	Juncaceae	Y
Juncus tenuis	slender rush	Juncaceae	Y
Luzula comosa var. comosa	hairy woodrush	Juncaceae	Y
Luzula subsessilis	Pacific woodrush	Juncaceae	Y
Scirpus microcarpus	small fruit bulrush	Cyperaceae	Y
	Ferns and Allies		-
Adiantum jordanii	maidenhair fern	Pteridaceae	Y
Athyrium filix-femina var. cyclosorum	lady fern	Athyriaceae	Y
Cystopteris fragilis	brittle fern	Cystopteridaceae	Y
Dryopteris arguta	California wood fern	Dryopteridaceae	Y
Equisetum telmateia var. braunii	large horsetail	Equisetaceae	Y
Equistum arvense	common horsetail	Equisetaceae	Y
Pentagramma triangularis ssp. triangularis	gold back fern	Pteridaceae	Y
Polypodium glycyrrhiza	licorice fern	Polypodiaceae	Y
Polystichum munitum	Western sword fern	Dryopteridaceae	Y
Pteridium aquilinum var. pubescens	hairy bracken fern	Dennstaedtiaceae	Y
Woodwardia fimbriata	Western chain fern	Blechnaceae	Y
	Grasses		
Agrostis stolonifera	creeping bentgrass	Poaceae	
Aira caryophyllea	silver hairgrass	Poaceae	N
Alopecurus pratensis	meadow foxtail	Poaceae	



Appendix 3, Table 3							
Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023 Garberville Sanitary District Study Area							
Scientific Name Common Name Family Nativ							
Anthoxanthum odoratum	sweet vernal grass	Poaceae	1				
Avena barbata	wild oat	Poaceae	I				
Briza maxima	large quaking grass	Poaceae	I				
Briza minor	small quaking grass	Poaceae	N				
Bromus catharticus	rescue grass	Poaceae	I				
Bromus diandrus	ripgut brome	Poaceae	I				
Bromus hordeaceus	softchess	Poaceae					
Bromus laevipes	narrow flowered brome	Poaceae	Y				
Bromus madritensis ssp. madritensis	foxtail chess	Poaceae	I				
Bromus sitchensis var. carinatus	California brome	Poaceae	Y				
Bromus sterilis	poverty brome	Poaceae	N				
Bromus vulgaris	common brome	Poaceae	Y				
Cortaderia jubata	jubata grass	Poaceae	I				
Cortaderia selloana	pampas grass	Poaceae	I				
Cynodon dactylon	Bermuda grass	Poaceae	I				
Cynosurus echinatus	dogtail grass	Poaceae	I				
Dactylis glomerata	orchard grass	Poaceae	I				
Danthonia californica	California oatgrass	Poaceae	Y				
Deschampsia elongata	slender hairgrass	Poaceae	Y				
Elymus caput-medusae	Medusa head	Poaceae	I				
Elymus glaucus ssp. glaucus	blue wildrye	Poaceae	Y				
Festuca arundinacea	tall fescue	Poaceae					
Festuca bromoides	brome fescue	Poaceae	N				
Festuca californica	California fescue	Poaceae	Y				
Festuca myuros	rattail sixweeks grass	Poaceae	N				
Festuca occidentalis	Western fescue	Poaceae	Y				
Festuca perennis	Italian ryegrass	Poaceae	I				
Festuca rubra	red fescue	Poaceae	Y				
Gastridium phleoides	nit grass	Poaceae	N				
Holcus lanatus	velvet grass	Poaceae	I				
Hordeum marinum ssp. gussoneanum	Mediterranean barley	Poaceae	N				
Hordeum murinum ssp. glaucum	blue foxtail	Poaceae					
Hordeum murinum ssp. murinum	wall barley	Poaceae	N				
Hordeum vulgare	common barley	Poaceae	N				
Melica geyeri	Geyer's melic	poaceae	Y				
Melica subulata	Alaska melic	Poaceae	Y				
Paspalum dilatatum	dallis grass	Poaceae	N				
Phalaris aquatica	harding grass	Poaceae					
Poa annua	annual bluegrass	Poaceae	N				
Poa bulbosa ssp. vivipara	bulbous bluegrass	Poaceae	N				
Poa trivialis	rough bluegrass	Poaceae	N				
Polypogon monspeliensis	rabbits foot grass	Poaceae					
Rhytidosperma penicillatum	hairy oat grass	Poaceae					



Garberville	Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023 Garberville Sanitary District Study Area					
Scientific Name Common Name Family						
Stipa pulchra	purple needlegrass	Poaceae	Y			
Trisetum cernuum	nodding trisetum	Poaceae	Y			
	Herbs					
Acmispon brachycarpus	short podded lotus	Fabaceae	Y			
Acmispon parviflorus	hill lotus	Fabaceae	Y			
Adenocaulen bicolor	trail plant	Asteraceae	Y			
Agapanthus praecox	African lily	Liliaceae	N			
Allium triquetrum	three cornered leek	Alliaceae	N			
Anisocarpus madioides	woodland madia	Asteraceae	Y			
Aphanes occidentalis	Western lady's mantle	Rosaceae	Y			
Apocynum cannabinum	Indian hemp	Apocynaceae	Y			
Asyneuma prenanthoides	California hairbell	Campanulaceae	Y			
Bellis perennis	English daisy	Asteraceae	N			
Brassica nigra	black mustard	Brassicaceae	I			
Callitriche heterophylla var. heterophylla	water starwort	Plantaginaceae	Y			
Calochortus tolmiei	hairy star tulip	Liliaceae	Y			
Calypso bulbosa var. occidentalis	fairy slipper	Orchidaceae	Y			
Calystegia occidentalis ssp. occidentalis	chaparral false bindweed	Convulvaceae	Y			
Capsella bursa-pastoris	shepherds' purse	Brassicaceae	N			
Cardamine californica	California milkmaids	Brassicaceae	Y			
Cardamine oligosperma	bitter cress	Brassicaceae	Y			
Carduus pycnocephalus ssp. pynocephalus	Italian thistle	Asteraceae				
Centaurea solstitialis	yellow star thistle	Asteraceae				
Centranthus ruber	Jupiter's beard	Valerianaceae	N			
Cerastium fontanum ssp. vulgare	mouse ear chickweed	Caryophyllaceae	N			
Chlorogalum pomeridianum var. pomeridianum	common soaproot	Agavaceae	Y			
Cichorium intybus	chicory	Asteraceae	N			
Cirsium vulgare	bull thistle	Asteraceae				
Claytonia parviflora ssp. parviflora	miner's lettuce	Montiaceae	Y			
Clinopodium douglasii	yerba buena	Lamiaceae	Y			
Conium maculatum	poison hemlock	Apiaceae				
Convolvulus arvensis	field bindweed	Convolvulaceae	N			
Crassula connata	sand pigmy weed	Crassulaceae	Y			
Crocosmia x crocosmiiflora	montebretia	Iridaceae				
Croton setiger	turkey mullein	Euphorbiaceae	Y			
Daucus carota	Queen Anne's lace	Apiaceae	N			
Delphinium nudicaule	canyon larkspur	Ranunculaceae	Y			
Dicentra formosa ssp. formosa	bleeding heart	Papaveraceae	Y			
Dichelostemma ida-maia	firecracker brodiaea	Themidaceae	Y			
Diplacus douglasii	purple mouse ears	Phrymaceae	Y			
Dipsacus fullonum	wild teasel	Dipsacaceae				
Dipterostemon capitatus Drymocallis glandulosa var. glandulosa	blue dicks sticky cinquefoil	Themidaceae Rosaceae	Y Y			



Appendix 3, Table 3 Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023 Garberville Sanitary District Study Area					
Scientific Name	Common Name	Family	Native?		
Epilobium brachycarpum	annual fireweed	Onagraceae	Y		
Epilobium ciliatum ssp. ciliatum	willowherb	Onagraceae	Y		
Epilobium densiflorum	willowherb	Onagraceae	Y		
Erigeron canadensis	Canada horseweed	Asteraceae	Y		
Erigeron karvinskianus	fleabane	Asteraceae	N		
Eriophyllum lanatum var. achilleoides	yarrow leaved woolly sunflower	Asteraceae	Y		
Erodium circutarium	common stork's bill	Geraniaceae	l		
Erodium moschatum	white stem filaree	Geraniaceae	N		
Erythranthe guttata	seep monkeyflower	Phrymaceae	Y		
Eschscholzia californica	California poppy	Papaveraceae	Y		
Euphorbia maculata	spotted spurge	Euphorbiaceae	N		
Euphorbia oblongata	eggleaf spurge	Euphorbiaceae	N		
Euphorbia peplus	petty spurge	Euphorbiaceae	N		
Euphorbia serpillifolia ssp. serpillifolia	thyme leaf spurge	Euphorbiaceae	Y		
Eurybia radulina	rough leaf aster	Asteraceae	Y		
Foeniculum vulgare	fennel	Apiaceae	I		
Fragaria vesca	wild strawberry	Rosaceae	Y		
Galium aparine	cleaver plant	Rubiaceae	Y		
Galium californicum ssp. californicum	California bedstraw	Rubiaceae	Y		
Galium muricatum	Humboldt bedstraw	Rubiaceae	Y		
Galium parisiense	wall bedstraw	Rubiaceae	N		
Gamochaeta ustulata	featherweed	Asteraceae	Y		
Geranium dissectum	cutleaf geranium	Geraniaceae	I		
Geranium molle	crane's bill	Geraniaceae	N		
Geranium robertianum	Robert geranium	Geraniaceae	N		
Heuchera micrantha	alum root	Saxifragaceae	Y		
Hieracium albiflorum	white hawksbeak	Asteraceae	Y		
Hirschfeldia incana	Mediterranean hoary mustard	Brassicaceae	I		
Hyacinthioides nonscripta	bluebells	Asparagaceae	N		
Hypericum calycinum	St. John's wort	Hypericaceae	N		
Hypericum perforatum ssp. perforatum	Klamathweed	Hypericaceae	I		
Hypochaeris glabra	smooth cat's-ear	Asteraceae	N		
Hypochaeris radicata	hairy cat's-ear	Asteraceae	I		
Iris douglasii	Douglas iris	Iridaceae	Y		
Iris germanica	German iris	Iridaceae	N		
Iris purdyi	Purdy's iris	Iridaceae	Y		
Kickxia elatine	sharp point fluellin	Plantaginaceae	N		
Kniphofia uvaria	firepoker	Asphodelaceae	I		
Lactuca serriola	prickly lettuce	Asteraceae	N		
Lamium purpureum	purple dead nettle	Lamiaceae	N		
Lapsana communis	common nipplewort	Asteraceae	N		



Appendix 3, Table 3 Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023 Garberville Sanitary District Study Area					
Scientific Name	Common Name	Family	Native?		
Lathyrus angulatus	angled pea vine	Fabaceae	N		
Lathyrus latifolius	sweet pea	Fabaceae	N		
Lathyrus sulphureus	sulphur pea	Fabaceae	Y		
Lathyrus vestitus var. vestitus	hillside pea	Fabaceae	Y		
Leontodon saxatilis ssp. saxatilis	hawkbit	Asteraceae	N		
Lepidium didymum	lesser swinecress	Brassicaceae	N		
Leptosiphon bicolor	true babystars	Polemoniaceae	Y		
Leucanthumum vulgare	oxeye daisy	Asteraceae	I		
Linum bienne	flax	Linaceae	N		
Lippia nodiflora	common lippia	Verbenaceae	Y		
Logfia gallica	narrowleaf cottonrose	Asteraceae	N		
Lotus corniculatus	bird's foot trefoil	Fabaceae	Ν		
Lupinus bicolor	annual lupine	Fabaceae	Y		
Lysimachia arvensis	scarlet pimpernel	Myrsinaceae	N		
Lysimachia latifolia	Pacific starflower	Myrsinaceae	Y		
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae			
Madia gracilis	gumweed	Asteraceae	Y		
Malva neglecta	dwarf mallow	Malvaceae	N		
Marah oregana	coast man-root	Cucurbitaceae	Y		
Matricaria discoidea	pineapple weed	Asteraceae	Y		
Medicago polymorpha	bur clover	Fabaceae			
Melilotus albus	white sweet clover	Fabaceae	N		
Melissa officinalis	lemon balm	Lamiaceae	N		
Mentha pulegium	pennyroyal	Lamiaceae	I		
Modiola caroliniana	Carolina bristle mallow	Malvaceae	N		
Myosotis latifolia	forget-me-not	Boraginaceae	I		
Narcissus pseudonarcissus	daffodil	Amaryllidaceae	N		
Navarretia squarrosa	skunkweed	Polemoniaceae	Y		
Nemophila heterophylla	canyon nemophila	Hydrophyllaceae	Y		
Osmorhiza berteroi	sweet cicely	Apiaceae	Y		
Oxalis articulata ssp. rubra	windowbox sorrel	Oxalidaceae	N		
Oxalis corniculata	creeping wood sorrel	Oxalidaceae	N		
Oxalis pes-caprae	Bermuda butterup	Oxalidaceae	I		
Pedicularis densiflora	indian warrior	Orobanchaceae	Y		
Phacelia bolanderi	redwood phacelia	Hydrophyllaceae	Y		
Phacelia heterophylla var. virgata	varied leaf phacelia	Hydrophyllaceae	Y		
Pisum sativum	garden pea	Fabaceae	N		
Plantago lanceolata	English plantain	Plantaginaceae	I		
Plantago major	common plantain	Plantaginaceae	N		
Polycarpon tetraphyllum var. tetraphyllum	all seed	Caryophyllaceae	N		
Polygonum aviculare ssp. aviculare	prostrate knotweed	Polygonaceae	N		
Poterium sanguisorba	garden burnet	Rosaceae	N		
Prosartes smithii	large fairy bells	Liliaceae	Y		



Appendix 3, Table 3 Botanical Species Observed 4/27/22, 5/9, 5/10, 7/5 and 7/6/2023						
Garberville Sanitary District Study Area Scientific Name Common Name Family						
Prunella vulgaris var. lanceolata	selfheal	Lamiaceae	Native?			
Prunella vulgaris var. vulgaris	selfheal	Lamiaceae	N			
Pseudognaphalium beneolens	cudweed	Asteraceae	Y			
Pseudognaphalium californicum	ladies' tobacco	Asteraceae	Y			
Pseudognaphalium luteoalbum	Jersey cudweed	Asteraceae	N			
Pseudognaphalium stramineum	cottonbatting plant	Asteraceae	Y			
Psilocarphus tenellus	slender woolly marbles	Asteraceae	Y			
Ranunculus muricatus	sunshine buttercup	Ranunculaceae	N			
Ranunculus occidentalis var. occidentalis	Western buttercup	Ranunculaceae	Y			
Ranunculus repens	creeping buttercup	Ranunculaceae				
Rhinotropis californica	California milkwort	Polygalaceae	Y			
Rumex acetosella	sheep sorrel	Polygonaceae				
Rumex conglomeratus	green dock	Polygonaceae	Ν			
Rumex crispus	curly dock	Polygonaceae	I			
Rumex pulcher	fiddleleaf dock	Polygonaceae	N			
Sagina decumbens ssp. occidentalis	pearlwort	Caryophyllaceae	Y			
Sanicula bipinnatifida	purple sanicle	Apiaceae	Y			
Sanicula crassicaulis	Pacific sanicle	Apiaceae	Y			
Scrophularia californica	California bee plant	Scrophulariaceae	Y			
Senecio vulgaris	common groundsel	Asteraceae	N			
Silene gallica	common catchfly	Caryophyllaceae	N			
Sisyrinchium bellum	Western blue-eyed grass	Iridaceae	Y			
Soleirolia soleirolii	babies tears	Urticaceae	N			
Soliva sessilis	South American soliva	Asteraceae	N			
Sonchus asper ssp. asper	prickly sow thistle	Asteraceae	N			
Sonchus oleraceus	common sow thistle	Asteraceae	N			
Spergula arvensis	corn spurrey	Caryophyllaceae	N			
Spergularia rubra	purple sand spurrey	Caryophyllaceae	N			
Stachys arvensis	field hedenettle	Lamiaceae	N			
Stachys rigida var. quercetorum	rough nettle	Lamiaceae	Y			
Stachys rigida var. rigida	rough hedge nettle	Lamiaceae	Y			
Stellaria media	chickweed	Caryophyllaceae	N			
Taraxacum officinale	dandelion	Asteraceae	N			
Tellima grandiflora	fringe cups	Saxifragaceae	Y			
Torilis arvensis	field hedge parsley	Apiaceae	I			
Trifolium dubium	shamrock clover	Fabaceae	Ν			
Trifolium fragiferum	strawberry clover	Fabaceae	Ν			
Trifolium gracilentum	pinpoint clover	Fabaceae	Y			
Trifolium hirtum	rose clover	Fabaceae	I			
Trifolium incarnatum	crimson clover	Fabaceae	Ν			
Trifolium repens	white clover	Fabaceae	N			
Trifolium subterraneum	subterranean clover	Fabaceae	N			
Trifolium willdenovii	tomcat clover	Fabaceae	Y			



· · · · · · · · · · · · · · · · · · ·	Appendix 3, Table 3 es Observed 4/27/22, 5/9, 5/10, 7/5 perville Sanitary District Study Are						
Scientific Name Common Name Family							
Trillium ovatum ssp. ovatum	western trillium	Melanthiaceae	Y				
Triphysaria pusilla	little owl's clover	Orobranchaceae	Y				
Triteleia laxa	Ithuriel's spear	Themidaceae	Y				
Veronica arvensis	speedwell	Plantaginaceae	N				
Vicia hirsuta	hairy vetch	Fabaceae	N				
Vicia sativa ssp. nigra	small common vetch	Fabaceae	N				
Vicia sativa ssp. sativa	spring vetch	Fabaceae	N				
Vicia tetrasperma	four-seeded vetch	Fabaceae	N				
Vicia villosa ssp. villosa	hairy vetch	Fabaceae	N				
Vinca major	vinca	Apocynaceae	I				
Vinca minor	common periwinkle	Apocynaceae	N				
Viola glabella	stream violet	stream violet Violaceae					
Viola odorata	English white violet	Violaceae	N				
Yabea macrocarpa	California hedge parsley	California hedge parsley Apiaceae					
Zantedeschia aethiopica	calla lily	calla lily Araceae					
Zeltnera muehlenbergii	Muehlenberg's centaury	Gentianaceae	Y				
	Vines						
Hedera helix	English ivy	Araliaceae	I				
Lonicera hipsidula	pink honeysuckle	Caprifoliaceae	Y				
Symphoricarpos mollis	creeping snowberry	Caprifoliaceae	Y				
Toxicodendron diversilobum	poison oak	Anacardiaceae	Y				
Vitis californica	California grape	Vitaceae	Y				
Vitis vinifera	cultivated grape	Vitaceae	Ν				
Whipplea modesta	modesty	Hydrangeaceae	Y				
Total: 315 Species			50% Native				



		x 3, Table 4		
	en e	Observed 7/1/2022 y District Study Areas		
Scientific Name	Common Name	Family	Nesting/Breeding Habit	Status
	Amp	hibians		
Pseudacris regilla	Northern Pacific tree-frog	Hylidae	freshwater	NL
	В	irds		
Aphelo	California scrub-jay	Corvidae	trees	NL
Buteo jamaicensis	red-tailed hawk	Accipitridae	trees	NL
Buteo lineatus	red-shouldered hawk	Accipitridae	trees	NL
Cardellina pusilla	Wilson's warbler	Parulidae	ground	NL
Catharus guttatus	hermit thrush	Turdidae	ground	NL
Cathrates aura	turkey vulture	Cathartidae	cliffs	NL
Chamaea faciata	wrentit	Sylviidae	shrub	NL
Corvus brachyrhynchos	American crow	Corvidae	Trees	NL
Corvus corax	common raven	Corvidae	Cliffs, trees & man- made structures	NL
Cyanocitta stelleri	Steller's jay	Corvidae	trees and shrubs	NL
Empidonax difficilis	Pacific-slope flycatcher	Tyrannidae	cavities	NL
Geothlypis tolmiei	MacGillivray's warbler	Parulidae	shrubs	NL
Haemorhous mexicanus	house finch	Fringillidae	trees	NL
Junco hyemalis	dark-eyed junco	Passerellidae	ground	NL
Melanerpes formicivorus	acorn woodpecker	Picidae	cavities	NL
Passer domesticus	house Sparrow	Passeridae	Cavities, eves, crevices, buildings	NN
Patagioenas fasciata	band-tailed pigeon	columbidae	trees	NL
Pipilo maculatus	spotted towhee	Passerellidae	ground	NL
Piranga ludoviciana	western tanager	Cardinalidae	trees	NL
Poecile rufescens	chestnut-backed chickadee	Paridae	cavities	NL
Sitta canadensis	red-breasted nuthatch	Sittidae	cavities	NL
Streptopelia decaocto	Eurasian collared dove	Columbidae	trees	NN
Tachycineta bicolor	tree swallow	Hirundinidae	cavities	NL
Vireo gilvus	warbling vireo	Vireonidae	trees	NL
Vireo huttoni	Hutton's vireo	Vireonidae	trees	NL
	Ма	nmals		
Sciurus griseus	western gray squirrel	Sciuridae	trees	NL
Urocyon cinereoargenteus	gray fox (sign)	Canidae	burrows	NL
	Re	ptiles		
Sceloporus occidentalis	western fence lizard	Phrynosomatidae sects	N/A	NL
Libellula saturate	flame skimmer	Libellulidae	N/A	NL
Papilio zelicaon	anise swallowtail	Papilionidae	N/A	NL
	Native	1 apinornauc		

NL=Not Listed NN=Not Native



Vegetation Rapid Assessment and Releve' Forms

Attribution Method: Air Photo Interpretation Field Survey

Field Reconnaissance

For Office Use:	Final database #:	Final vegetation type: Alliance
L LOCATIONAL	ENVIRONMENTAI	Association
Database #:	Date:	Name of recorder: Josep Safer
	4/27/2	2 Other surveyors:
	UID:	Location Name: Releve 1 Purple Needle Grass
GPS name: Trimb	o P1	
		For Relevé only: Bearing [°] , left axis at ID point of Long / Short side
UTME Decimal degrees:	1 10 1	$\frac{MN}{2} = \frac{Zone: 11 \text{ NAD83 GPS error: ft./m./PDOP}}{123.770689}$
GPS within stand	1? Yes / No If N	fo, cite from GPS to stand: distance (m) bearing ° inclination °
and record: Base		Projected UTMS: UTME UTMN
	MSWG Cardinal	photos at ID point: 4 ***See notes on bottom of pg 2; record info on photo shee
		Plot Area (m ²): 100 / Plot Dimensions 3×3 m RA Radius m SE SW Flat Variable Steepness, Actual °: 30° 0° 1-5° > 5-25° > 25
Topography: Ma Geology code:	cro: top upper Soil Text	mid lower bottom Micro: convex) flat interest undulating ture code: Upland or Wetland/Riparian (circle one)
	1s: 50 Litter: 43	Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud) Bedrock: 5 Boulder: Stone: Cobble: Gravel: Fines: 2 =100%
% Current year bi Fire evidence: (Ye	oturbation 2 1 / No (circle one) If	Past bioturbation present? Yes / No % Hoof punch <u>~1</u> yes, describe in Site history section, including date of fire, if known.
		stricted to SW facing Shope, hours to have been ically disturbed areas one. Sominated by non-native own Marks and debris on old Dauglartin nearby 250 yrs ag ons (disturbances, sudden oak death, ect.) Wotern easile of Thestond. A firt road nearly busects
		· · ·
Disturbance and 1	Intensity (L,M,H):	
visiur vance code /		//////////////////////////////////////
		///"Other"/
I. HABITAT DES	CRIPTION	
I. НАВІТАТ DES Г <mark>ree DBH : <u>T1</u> (<1'</mark>	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u>	<u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling	CRIPTION dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceous: H1	CRIPTION ² dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young 12" plant ht.),(<u>H2</u> () 12"	<u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead) ht.)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceouk: <u>H1</u> Oesert Riparian Tr	CRIPTION ² dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young (2" plant ht.), <u>H2</u> (-12") ce/Shrub: 1 (<2ft. steel	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceous: <u>H1</u> Desert Riparian Tr Desert Palm/Joshu	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2 young</u> (2" plant ht.), <u>H2</u> (-12"] ce/Shrub: 1 (<2ft. ste	<u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead) ht.)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceous: <u>H1</u> Cesert Riparian Tr Desert Palm/Joshu: II. INTERPRETA	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young (2" plant ht.), <u>H2</u> (-12"] ee/Shrub: 1 (<2ft. ste	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceous: <u>H1</u> Cesert Riparian Tr Desert Palm/Joshu: II. INTERPRETA	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young (2" plant ht.), <u>H2</u> (-12"] ee/Shrub: 1 (<2ft. ste	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.)
I. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceous: <u>H1</u> < Desert Riparian Tr Desert Palm/Joshu: II. INTERPRETA	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young (2" plant ht.), <u>H2</u> (-12"] ce/Shrub: 1 (<2ft. ste	$\frac{T3}{(6-11" dbh)}, \frac{T4}{11-24" dbh)}, \frac{T5}{15} (>24" dbh), \frac{T6}{16} multi-layered (T3 or T4 layer under T5, >60% cover)}{g (<1% dead)}, \frac{S3}{S3} mature (1-25% dead), \frac{S4}{54} decadent (>25% dead)}{ht.}$ em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.)
I. HABITAT DES Tree DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceout: <u>H1</u> Desert Riparian Tr Desert Palm/Joshu: <u>II. INTERPRETA</u> Field-assessed vege Field-assessed Asso	CRIPTION CRIPTION Comparison of the second state of the second s	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.)
II. HABITAT DES Free DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceout: <u>H1</u> < Desert Riparian Tr Desert Palm/Joshu: II. INTERPRETA Field-assessed vege Field-assessed Asso Adjacent Alliances/	CRIPTION CRIPTION CRIPTION Comparison of the second state of th	$\frac{T3}{(6-11" dbh)}, \frac{T4}{(11-24" dbh)}, \frac{T5}{(>24" dbh)}, \frac{T6}{16} multi-layered (T3 or T4 layer under T5, >60% cover)}{g(<1% dead)}, \frac{S3}{S3} mature (1-25% dead), \frac{S4}{S4} decadent (>25% dead)}{ht.)}$ em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.) $\frac{11, 2}{2}$
II. HABITAT DES Tree DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceouk: <u>H1</u> Desert Riparian Tr Desert Palm/Joshu III. INTERPRETA Field-assessed vege Field-assessed Asso Adjacent Alliances/	CRIPTION CRIPTION CRIPTION CRIPTION COMPARENT COMP	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.) </td
II. HABITAT DES Tree DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceouk: <u>H1</u> < Desert Riparian Tr Desert Palm/Joshus III. INTERPRETA Field-assessed vege Field-assessed Asso Adjacent Alliances/ Confidence in Allia	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young (2" plant ht.), <u>H2</u> (12"] ee/Shrub: 1 (<2ft. stee	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.) ::
II. HABITAT DES Tree DBH : <u>T1</u> (<1' Shrub: <u>S1</u> seedling Herbaceous: <u>H1</u> (< Desert Riparian Tr Desert Palm/Joshus III. INTERPRETA Field-assessed vege Field-assessed Asso Adjacent Alliances/ Confidence in Allia Phenology (E,P,L): of individual target	CRIPTION ' dbh), <u>T2</u> (1-6" dbh), <u>1</u> (<3 yr. old), <u>S2</u> young (2" plant ht.), <u>H2</u> (12"] ee/Shrub: 1 (<2ft. stee	T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover) g (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) ht.) em ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) diameter), 2 (1.5-6" diam.), 3 (>6" diam.) </td

2) Non-sensitive upland map to alliance - map sensitive associations.

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Attribution Method: Air Photo Interpretation

Field Survey Field Reconnaissance

Association Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"Co	For Office Use:	Final database #:	Final vegetation type:	Alliance	
atabase #: Pate:	L LOCATIONAL	FNVIDONMENTAL		Association	ainda Dil (Di
H/27/22 Other surveyors: Lacation Name: Releve 0.1/2 Data (differica PS name: Cuble For Releve 0.1/2 Data (differica PS name: Cuble For Releve 0.1/2 Data (differica PS name: Cuble ITMN Zone: II NADB3 GPS error: L/m PDOP acimal degrees: LAT I I ITS T J J D PS within stand? Vest No (I:No, cite from GPS to stand: distance (m)		5255 IV.		Topell Dat	circle: Relevé or RA
UTD: Location Name: Ref Rvd 2 Der Nova (differing) PS name [Wdb] For Relevé only: Bearing*, left axis at 10 pointof Long / Short side PME		4/27/2			т.
PS name: Image:					in chlorica
TME UTMN Zone: 11 NAB3 GPS error: fr/ m./ PDOP ceimal degrees: LAT 4 0. 1 7.5 3.4 LONG 1.2 3.7 7.0 3.3 2 PS within stand? Ves No If No, eite from GPS to stand: distance (m) bearing " inclination " and cool: Base point ID Projected UTMs: UTMN UTMN TTMN and Size (acres): (D) 1.5 >5 Plot Area (m); 100 / Plot Dimensions 2 x/0 m RA Radius_m opposraphy: Macro: for onpopro mid lower bottom Micro: onvex fat Analysis and circle one) Surface cover: (field-underspi) Coder dam) (25-55m) Cobbie:() Gravet: & Fines: 20 =100% Current year bioturbation Surface cover: (field-underski) Builder: Surface cover: & field-underski As tons: 10 fair and analy and undulating eloog code: Surface cover: (field-underski) Builder: fair and analy and undulating fair and analy and analy and analy and analy andulating fair analy andulating fair	Trick	A 4			
coimal degrees: LAT 1 0 7 5 4 LONG 2 7 7 0 3 2 PS within stand? Yes No If No, cite from GPS to stand: distance (m) bearing* inclination* and record: Base point Projected UTMs: UTME UTM UTM amera Name: SMSUA Cardinal photos at ID point: Yes ""See notes on bottom of pg 2; record into on photo sheet and score: Actual *: NE NE NE SW Flat Variable Steepness, Actual *: 0" 1.5" > 5.25" SW prography: Macro: top gpe0 mid lower bottom Micro: convex flat Second Convex flat Second Second Second flat Second Second flat Second Second Second flat Second Second <td>GPS name: ICM/0]</td> <td>eri</td> <td>For Relevé</td> <td>only: Bearing°, left axis</td> <th>at ID point of Long / Short side</th>	GPS name: ICM/0]	eri	For Relevé	only: Bearing°, left axis	at ID point of Long / Short side
PS within stand? (Ves) No If No, cite from GPS to stand: distance (m) bearing * inclination * and record: Base point ID Projected UTMs: UTME UTMN amera Name: SewSUAQ Cardinal photos at ID point: Vos ***See notes on bottom of pg 2: record into on photo sheet ther photos: and Size (arces): GD 1-5, >5 Piot Area (m ³): 100 / Plot Dimensions <u>7</u> x 10 m RA Radius	UTME	UTN		Zone: 11 N.	AD83 GPS error: ft./ m./ PDOP
and record: Base point D	Decimal degrees:	LAT <u>4</u> <u>0</u> .	07534	LONG-123.	<u>770332</u> °
and record: Base point D	GPS within stand	I? (Yes) No If No	o, cite from GPS to stand: dis	tance (m) bearing °	inclination °
and Size (acres): (a) 1-5, >5 Plot Area (m ²): 100 / Plot Dimensions 2_x (0 m RA Radiusm cposure, Actual ⁹ :NE NW (SE) SW Flat Variable Steepness, Actual ⁹ : 3_5 0 ⁰ 1-5 ⁰ > 5-25 ⁰ (2) prography: Macro: top (upper) mid lower bottom Micro: convex flat fancax undulating convex flat fancax undulating (upland) or Wetland/Riparian (crite one) Surface cover:(nel outpers) (-60cm diam) (25-60cm) (75-25cm) (2mm-7.5cm) (incl sand, mud) dr (100 Ba Stems: 40 Litter: 40 Bedrock: (2) Boulder: (2) Stone: (2) Cobbie: (3) Gravel: (2) Fines: 20 =100% Current year bioturbation < 1.2.7 Past bioturbation present? (2) / No 1 % Hoof punch (2) re evidence: (ves) No (circle one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: te history, stand age, comments: How (1) (2000 A Cortes one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: How (1) (2000 A Cortes one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: How (1) (2000 A Cortes one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: How (1) (2000 A Cortes one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: Starbance code / Intensity (L,M,H): / / / / / / / / / / / / / / / / / / /	and record: Base	point ID	Projected UTMs	UTME	UTMN
sposure, Actual *:NE NE NW SW Flat Variable Steepness, Actual *; 35 0* 1.5° >5.25° 23° prography: Macro: top upper) mid lower bottom Micro: convex flat Soness' undulating solid Texture code: Soil Texture code: Convex flat Soness' undulating Surface cover: (incl. outcrops) C+00cm diam) G2+00cm (Crossen) Convext Soness' Texture code: Texture code: Convext Conve	Camera Name: 50 Other photos:	MSUNG Cardinal	photos at ID point: Yes	***See notes or	n bottom of pg 2; record info on photo sheet
popgraphy: Macro: top upper) mid lower bottom Micro: convex fill activation Soil Texture code:					
<pre>sology code:</pre>					
aber BA Stems: 40 Litter: 40 Bedrock: β Boulder: 6 Stone: Cobble: Gravel: & Fines: 20 =100% Current year bioturbation ≤ 1% Past bioturbation present? Ye / No / % Hoof punch- re evidence: Yes/ No (circle one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: NMA , CWNART, OATH A CALiforn G , CATSIAL. SWOWN deed, by Non-Afwe 9 rawlen de revolution: Mark and the sector of the sector o					
Current year bioturbation <u>< 1</u> % Past bioturbation present? Ve) / No % Hoof punch re evidence: Ves/ No (circle one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: MAI, CWMAT, OATHERIA CALIFORIA, GALTORIA, SWMAN DEN by Non-Artive grawing difference of the comparison of the present of the comparison of th	% Surface cover:	(h	ncl. outcrops) (>60cm diam)	(25-60cm) (7.5-25cm)	(2mm-7.5cm) (Incl sand, mud)
Current year bioturbation <u>< 1</u> % Past bioturbation present? Ve) / No % Hoof punch re evidence: Ves/ No (circle one) If yes, describe in Site history section, including date of fire, if known. te history, stand age, comments: MAI, CWMAT, OATHERIA CALIFORIA, GALTORIA, SWMAN DEN by Non-Artive grawing difference of the comparison of the present of the comparison of th	H ₂ 0: DA Stem	1s: 40 Litter: 40	Bedrock: 🖋 Boulder: 🏑	J Stone: Cobble:) Gravel: & Fines: 20 =100%
Mall, rownat, Oatheria Californ Ca, scattland. Summ ded, by Non-Native graving defines wood and four of help the phase of the second states of the second st	% Current year bid	oturbation <u>< 1 /</u> 1	Past bioturbation present?	Ye / No % Ho	of punch O
HABITAT DESCRIPTION tee DBH : $\underline{T1}$ (<1" dbh), $\underline{T2}$ (1-6" dbh), $\underline{T3}$ (6-11" dbh), $\underline{T4}$ (11-24" dbh), $\underline{T5}$ (>24" dbh), $\underline{T6}$ multi-layered (T3 or T4 layer under T5, >60% cover) rub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) true: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) true: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) true: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) true: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) true: S1 seedling (<3 yr. old), S2 young (<1% dead), S4 decadent (>25% dead) true: S1 (<12" plant ht.), H2 (>10", ht.), 3 (10-20", ht.), 4 (>20", ht.) seert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) INTERPRETATION OF STAND eld-assessed vegetation Alliance name: 1, 2 eld-assessed Association name (optional): Image: Stand /					/
the DBH : $\underline{T1}$ (<1" dbh), $\underline{T2}$ (1-6" dbh), $\underline{T3}$ (6-11" dbh), $\underline{T4}$ (11-24" dbh), $\underline{T5}$ (>24" dbh), $\underline{T6}$ multi-layered (T3 or T4 layer under T5, >60% cover) rub: $\underline{S1}$ seedling (<3 yr. old), $\underline{S2}$ young (<1% dead), $\underline{S3}$ mature (1-25% dead), $\underline{S4}$ decadent (>25% dead) erbaceous $\underline{H1}$ (>12" plant ht.), $\underline{H2}$ (>12" ht.) sert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) sert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) . INTERPRETATION OF STAND eld-assessed vegetation Alliance name: $\frac{1, 2}{2}$ eld-assessed Association name (optional): Hardwood for \underline{frest} ($\underline{F1}$, \underline{frest} , f	Disturbance code /	Intensity (L,M,H): _	///	<u>//</u> //	" "Other" /
rub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) erbaceous: H1 (12" plant ht.), H2 (>12" ht.) sert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) sert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) . INTERPRETATION OF STAND eld-assessed vegetation Alliance name: 1, 2 eld-assessed vegetation alliance name: 1, 2 eld-assessed Association name (optional): figacent Alliance identification: L M H Explain: enology (E,P,L): Herb Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance)	I. HABITAT DES	CRIPTION			
rub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead) erbaceous: H1 (12" plant ht.), H2 (>12" ht.) sert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) sert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) . INTERPRETATION OF STAND eld-assessed vegetation Alliance name: 1, 2 eld-assessed vegetation alliance name: 1, 2 eld-assessed Association name (optional): figacent Alliance identification: L M H Explain: enology (E,P,L): Herb Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance)	Tree DBH : <u>T1</u> (<1"	' dbh), <u>T2</u> (1-6'' dbh),]	[<u>3</u> (6-11" dbh), <u>T4</u> (11-24" db	h), <u>T5</u> (>24" dbh), T6 mult	i-layered (T3 or T4 layer under T5. >60% cover)
erbaceous (H1 (*12" plant ht.), H2 (>12" ht.) sert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) sert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) . INTERPRETATION OF STAND eld-assessed vegetation Alliance name: 1, 2 eld-assessed vegetation name (optional): Ligacent Alliances/direction: Hardwood forest / E., Non-Native Annual grassInd. 5+W infidence in Alliance identification: L M (H) Explain: enology (E,P,L): Herb P Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance) 20 Dation (A) for (A) (A) (A) (A)					
sert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.) esert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) . INTERPRETATION OF STAND eld-assessed vegetation Alliance name: 1, 2 eld-assessed Association name (optional): ljacent Alliances/direction: Hard 1000 for the part of the p					
sert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.) . INTERPRETATION OF STAND eld-assessed vegetation Alliance name: ^{1, 2} eld-assessed Association name (optional): ljacent Alliances/direction: Hardwood forest / E , Non-Native Annual grassland, 5+W infidence in Alliance identification: L M H Explain: enology (E,P,L): Herb P Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance) 20 Dationa (a) form Ca				20ft.ht.), 4 (>20ft.ht.)	
. INTERPRETATION OF STAND eld-assessed vegetation Alliance name: ^{1, 2} eld-assessed Association name (optional): ljacent Alliances/direction: Hardwood forest / E., Non-Native Annual grasskind, 5+W enfidence in Alliance identification: L M (H) Explain: enology (E,P,L): Herb P Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance) 20 Dationa (a) form ca					
eld-assessed vegetation Alliance name: ^{1, 2} eld-assessed Association name (optional):			, = (10 0 0000), D	(• ••••••	
eld-assessed vegetation Alliance name: eld-assessed Association name (optional): ljacent Alliances/direction: Hardwood forest / E., Non-Natve Annual grassknal, 5+W enology (E,P,L): Herb P Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance) 20 Datena (a) form ca					
eld-assessed Association name (optional): ljacent Alliances/direction: Hardwood forest / E	Field-assessed veget	tation Alliance name	1, 2		
Ijacent Alliances/direction: Hardwood forest / E., Non-Native Annual grassland, S+W anfidence in Alliance identification: L M (H) Explain:	Field-assessed Asso	ciation name (optiona	d):C		
enology (E,P,L): Herb P Shrub Tree Other identification or mapping information: f individual target species (e.g. redwood within Redwood Forest Alliance) 200 Datana Californ ca		11 - 1		E Non-N	ative Annual grassland, S+W
f individual target species (e.g. redwood within Redwood Forest Alliance)		-	M (H) Explain:		V
200 Dathania Californi ca					mation:
		a 11/2	ood within Redwood Fore	est Alliance)	
Oppulate of porpeoperation man to ellipsee and accepted accepted and accepted accept				det a sector de la	

2) Non-sensitive upland map to alliance - map sensitive associations.

Wetland Determination and Ordinary High Water Mark Data Forms

5

roject/Site: Garberville	Cit	y/County: Humboldt	T	_ Sampling Date: 4/12/2
pplicant/Owner: Garberville Sanitary	District		State: CA	_ Sampling Point: TP_L
nvestigator(s): Joseph Saler, Cindy Wilcox		ction, Township, Ra		
andform (hillslope, terrace, etc.): Hillslope saw	ale la	cal relief (concave,	convex, none):	Slope (%): 5
ubregion (LRR): A, MLRA-4B				234° Datum: WGS 84
oil Map Unit Name: 667: Dryfield-York	north-Wither	ell Complex 5.	-30% NWI classif	ication; None
re climatic / hydrologic conditions on the site typical	for this time of year?	Yes No	X (If no, explain in	Remarks.)
re Vegetation, Soil, or Hydrology	significantly dis	turbed? Are "	Normal Circumstances"	present? Yes X No
re Vegetation, Soil, or Hydrology	naturally proble	matic? (If ne	eded, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site	nap showing s	ampling point l	ocations, transect	s: important features, et
Hydrophytic Vegetation Present? Yes				o, important locatoo, o
Hydric Soil Present? Yes	No No	Is the Sampled	Area	
Wetland Hydrology Present? Yes X	No	within a Wetlar	nd? Yes 📈	No
Remarks: Study area is experiencing exham	&drought (U.S.	Drought Monitor	ing).	4 2 3 1 3
TP excavated in roadside	some 1	which is prime	till dry exce	of at this location.
/EGETATION – Use scientific names of		NUNUS y	0.7,	
		Dominant Indicator	Dominance Test wor	ksheet:
Tree Stratum (Plot size:)	<u>% Cover</u>	pecies? Status	Number of Dominant	Species 7
			That Are OBL, FACW	, or FAC: (A)
1 ree stratum on Drys	tope about	2 Swale	Total Number of Dom	
4. Not conned			Species Across All St	rata: (B)
		Total Cover	Percent of Dominant	
Sapling/Shrub Stratum (Plot size: 544	15		That Are OBL, FACW Prevalence Index wo	, 011710: (/11
1. Rubur armenacus		FAC	Total % Cover of:	
2				x1=
3				x 2 =
4 5.			FAC species	x 3 =
	15 -	Total Cover		x 4 =
Herb Stratum (Plot size: 5ft)		•		x 5 =
1. Juncus effurus ssp. pariticus	<u>40</u>	~ tacw	Column Totals:	(A) (E
2. Holew landws	- 40 -	FAC		ex = B/A =
4. Rymex (cispw,	2	FAC	Hydrophytic Vegeta	
5. Vicia Sativa	ĪŠ	UPL	1 - Rapid Test for 2 - Dominance Te	Hydrophytic Vegetation
Briza Maxima	- is	NL		
Geraium dissection	1.	NL	3 - Prevalence In	dex is \$3.0 I Adaptations ¹ (Provide supporti
B. Sanchur Oleraceus	1	UPL		ks or on a separate sheet)
. Hypochaeris, radicata	1	FACU	5 - Wetland Non-	Vascular Plants ¹
10. Carex hendersavii	2	FAC	Problematic Hydr	ophytic Vegetation ¹ (Explain)
11,				oil and wetland hydrology must sturbed or problematic.
Woody Vine Stratum (Plot size:)	12 =	Total Cover 22.4	be present, unless dis	auroed of problematic.
1			Linder about -	
			Hydrophytic Vegetation	\vee
2				X
2		Total Cover	Present? Y	/es 🗶 No

50

1

Sampling Point: TP Consulting Engines

Profile Description: (Describe to the dep	oth needed to docum	ent the in	ndicator	or commi	i the absence	or indicators.)
Depth Matrix	Redox	Features				
(inches) Color (moist) %	Color (moist)	%	Type'	Loc ²		Remarks
0-3 7.5YR 3/2 100			_	TH	Loom	
3-15 10YR 4/2 85	7.5 YR 4/6	15	C	MIPL	SiL	
15-17+2.5V 6/2 30	7.5YR4/6	30	C	MPL	ECL	
1 2.01 012 10	<u>1.) / K // O</u>		<u> </u>	1410		
¹ Type: C=Concentration, D=Depletion, RM	Reduced Matrix CS	=Covered	or Coat	ed Sand Gr	rains ² l oc	ation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless other	wise note	ed.)			rs for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S					Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (-	Parent Material (TF2)
Black Histic (A3)	Loamy Mucky M) (excep	t MLRA 1)		Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed N	Matrix (F2)		Othe	er (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix				-1	
Thick Dark Surface (A12)	Redox Dark Sur	• • •				rs of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark S		7)			nd hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressi	IONS (FB)			unies	s disturbed or problematic.
Restrictive Layer (if present):						
Type:	25					
Depth (inches):					Hydric Soil	Present? Yes / No
HYDROLOGY						
HYDROLOGY Wetland Hydrology Indicators:						
	ed; check all that apply	y)			Secor	ndary Indicators (2 or more required)
Wetland Hydrology Indicators:	ed; check all that apply		es (B9) (except		ndary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one require	Water-Stai		• • •	except		
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1)	Water-Stai MLRA [·] Salt Crust	ined Leav 1 , 2, 4A, a (B11)	and 4B)	except	w v	/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	Water-Stai MLRA Salt Crust Aquatic Inv	ned Leav 1 , 2, 4A, a (B11) vertebrate	and 48) es (B13)	except	۷ ۷ م	/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stai MLRA [·] Salt Crust	ned Leav 1 , 2, 4A, a (B11) vertebrate	and 48) es (B13)	except	W D S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen	ined Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe	and 4B) es (B13) dor (C1) eres along	g Living Ro	W D D ots (C3) X G	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2)
Wetland Hydrology Indicators: Primary 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)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o	ined Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce	and 4B) es (B13) dor (C1) eres along ed Iron (C	g Living Ro		/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3)
Wetland Hydrology Indicators: Primary 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)	Water-Stain MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro	ned Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti	and 4B) es (B13) dor (C1) eres along ed Iron (C	g Living Ro (4) ed Soils (Cl		/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ny-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary 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)	Water-Stain MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or	ned Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed	and 4B) es (B13) dor (C1) ires along ed Iron (C ion in Till I Plants (I	g Living Ro	W D ots (C3) X G 6) X F N R	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary 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	Water-Stain MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or 37) Other (Exp	ned Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed	and 4B) es (B13) dor (C1) ires along ed Iron (C ion in Till I Plants (I	g Living Ro (4) ed Soils (Cl	W D ots (C3) X G 6) X F N R	/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ny-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary 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 (E Sparsely Vegetated Concave Surface	Water-Stain MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or 37) Other (Exp	ned Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed	and 4B) es (B13) dor (C1) ires along ed Iron (C ion in Till I Plants (I	g Living Ro (4) ed Soils (Cl	W D ots (C3) X G 6) X F N R	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary 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 Field Observations:	Water-Stain MLRA ² Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 0 Recent Iro Stunted or 37)Other (Exp (B8)	ined Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed Dain in Re	and 4B) es (B13) dor (C1) ires along ed Iron (C ion in Till I Plants (I	g Living Ro (4) ed Soils (Cl	W D ots (C3) X G 6) X F N R	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
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Wetland Hydrology Indicators: Primary 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	Water-Stain MLRA	ined Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed olain in Re ches): ches):	and 4B) es (B13) dor (C1) ires along ed Iron (C ion in Till I Plants (I	g Living Roi 34) ed Soils (Cl D1) (L RR A	W D ots (C3) X G 6) X F N R	/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present?	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 0 Recent Iro Stunted or 37) Other (Exp (B8) No Depth (ind No Depth (ind	ined Leav 1, 2, 4A, a (B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed olain in Re ches): ches):	and 4B) es (B13) dor (C1) ores along ed Iron (C ion in Till Plants (I emarks) N/A 3 in	g Living Rod 34) ed Soils (Cd D1) (LRR A	W D ots (C3) X G 6) X F (N) R (N) R F	/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or 37) Other (Exp (B8) No Depth (ind No Depth (ind nonitoring well, aerial p	(B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed olain in Re ches): ches): photos, pr	and 4B) es (B13) dor (C1) irres along ed Iron (C ion in Till Plants (I emarks) N/A Bin Bin Bin Bin Bin Bin Bin Bin Bin Bin	y Living Rod (4) ed Soils (Cl D1) (LRR A	W D D S () X G () S () S () R () R () F () F () () () () () () () () () () () () () (/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, mage)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or 37) Other (Exp (B8) No Depth (ind No Depth (ind nonitoring well, aerial p	(B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed olain in Re ches): ches): photos, pr	and 4B) es (B13) dor (C1) irres along ed Iron (C ion in Till Plants (I emarks) N/A Bin Bin Bin Bin Bin Bin Bin Bin Bin Bin	y Living Rod (4) ed Soils (Cl D1) (LRR A	W D D S () X G () S () S () R () R () F () F () () () () () () () () () () () () () (/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary 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 (E Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, mage)	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Stunted or 37) Other (Exp (B8) No Depth (ind No Depth (ind nonitoring well, aerial p	(B11) vertebrate Sulfide O Rhizosphe of Reduce n Reducti Stressed olain in Re ches): ches): photos, pr	and 4B) es (B13) dor (C1) irres along ed Iron (C ion in Till Plants (I emarks) N/A Bin Bin Bin Bin Bin Bin Bin Bin Bin Bin	y Living Rod (4) ed Soils (Cl D1) (LRR A	W D D S () X G () S () S () R () R () F () F () () () () () () () () () () () () () (/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)

WETLAND DETERMINATION		M – Western Mou	ntains, Valleys, a	C11
Project/Site: Garberville		City/County: Humboldt		_ Sampling Date:
Applicant/Owner: Garberville Sonitory (Sampling Date:TP 2
Investigator(s): Joseph Saler, Cindy Wilcox				Sampling Point:
	iala	Section, Township, Rai	nge:	a.N. 7
Landform (hillslope, terrace, etc.): Hills ope 5				
Subregion (LRR): A, MLRA-4B	Lat:	0.107270	Long: -123.18	5288° Datum: WGS 84
Soil Map Unit Name: 667: Dryfield-York	NorTh-With	erell complex 5	-30/- NWI class	ification: None
Are climatic / hydrologic conditions on the site typical	for this time of yea	ar? Yes No	X_ (If no, explain in	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly	disturbed? Are "	Normal Circumstances	" present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally pro		eded, explain any ans	
				,
SUMMARY OF FINDINGS – Attach site r		sampling point i	ocations, transec	ts, important features, etc
Hydrophytic Vegetation Present? Yes		Is the Sampled	Aroa	
Hydric Soil Present? Yes Wetland Hydrology Present? Yes		within a Wetlar		NoX
Remarks: Study area is experiencing sever			-	
			ing).	TO1
TP excavated in roadside	sudle 0	APPROX 18H	downshipe fro	mIL
		11.		
VEGETATION – Use scientific names of	·			
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Indicator Species? Status	Dominance Test wo	
1			Number of Dominant That Are OBL, FACV	
2				
3			Total Number of Don Species Across All S	
4.				De es
CL		= Total Cover	Percent of Dominant That Are OBL, FACV	
Sapling/Shrub Stratum (Plot size: 5++			Prevalence Index w	
1. Rubus armanacus	2	FAC	Total % Cover o	
2				x 1 =
3				x 2 =
4				x 3 =
5				x3=
Harth Stratum (Block size 54	2	= Total Cover		x 5 =
Herb Stratum (Plot size: 5H) 1. Briza Makima	70	I NI		(A) (B)
2. Bromve diandrue	- 50-	- NL		(4) (5)
3. Foeniculum, hulgare	10	<u>IVC</u>	Prevalence Ind	
R		- CACIA	Hydrophytic Vegeta	
		HACU		or Hydrophytic Vegetation
5. (scraning dissection 6. Sonchw algoactus			2 - Dominance 1	
	<u> </u>		3 - Prevalence I	
	<u>+</u>	- WE	4 - Morphologica	al Adaptations ¹ (Provide supporting
8 testica annoinacea		fac	1	irks or on a separate sheet)
9 Corduus pycnocephalus				-Vascular Plants ¹
10				Irophytic Vegetation ¹ (Explain)
11	- 11			soil and wetland hydrology must isturbed or problematic.
Woody Vine Stratum (Plot size)	110	= Total Cover -23.2		

vvoody vine Stratum (Piot size:)		
1	Hydrophytic	
2	Vegetation	\sim
= Total Cover	Present?	Yes No
% Bare Ground in Herb Stratum		
Remarks:	1	
Tree stratung does not reflect swale conditions	on o me.	nat included in
dominance calcs.		

Sampling Point: TP Zonsulting Engine

7

Profile Description: (Describe to the de	pth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type' Loc ²	Texture Remarks
0-9 7.54R 3/2 19	ASYK 4/4 _ C M	SILL
9-17+2.594/3 96	10YR 4/6 4 C M	SICL
		<u> </u>
	· · · · · · · · · · · · · · · · · · ·	
True CoConcentration D-Depiction R	M=Reduced Matrix, CS=Covered or Coated Sand Gra	ains 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)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loarny 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)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
HYDROLOGY Wetland Hydrology Indicators:		
Wetland Hydrology Indicators:	red: check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi	A MARKEN ALCONTACT	
Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one requi</u> Surface Water (A1)	Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) —— Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one requi</u> Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	 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 Hydrology Indicators: Primary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 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 Hydrology Indicators: Primary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo	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 Hydrology Indicators: Primary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 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)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) 	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 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)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Opts (C3) Shallow Aquitard (D3) Shallow Aquitard (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 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	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks)	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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requised in the second sec	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks)	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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 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 Sparsely Vegetated Concave Surface Field Observations:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo 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)	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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) e (B8) No Depth (inches): N/A Depth (inches): 13 in	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Opts (C3) 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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) e (B8) No Depth (inches):	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) e (B8) No Depth (inches): M/A Depth (inches): J	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) e (B8) No Depth (inches):	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge,	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants (D1) (LRR A Stanted or Stressed Plants) e (B8) No Depth (inches):	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge,	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants (D1) (LRR A Stanted or Stressed Plants) e (B8) No Depth (inches):	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:
Wetland Hydrology Indicators: Primary 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Yes Quarter Table Present? Yes Saturation Present? Yes Mater Table Present? Yes Mater Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, Remarks: Field Observation Capture	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A (B7) Other (Explain in Remarks) e (B8) No Depth (inches): M/A No Depth (inches): M/A No Depth (inches): M/A Wethermonitoring well, aerial photos, previous inspections), Man O ettreme Jourght, Love	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:
Wetland Hydrology Indicators: Primary 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 Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Mater Table Recorded Data (stream gauge, Remarks: Guideling fringe) Describe Recorded Data (stream gauge,	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants (D1) (LRR A Stanted or Stressed Plants) e (B8) No Depth (inches):	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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:

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roject/Site: Garberville	City/Count	y: Humboldt		_ Sampling Date: <u>4/12/2</u>
oplicant/Owner: Garberville Sanitary Di	stad			_ Sampling Point: TP 3
vestigator(s): Joseph Saler, Cindy Wilcox	Section Tr		nge:	
andform (hillslope, terrace, etc.): Hills ope -fla	Local relie	f (concave, c	convex, none): NON	e Slope (%): 2
ubregion (LRR): A, MLRA-4B	Lat 40.1058	249°	Long -123.78	279° Datum: WGS 84
Dil Map Unit Name: 667: Dry field-Yorkn	octh-With okell (mala S-	-30% NIAH classi	isetion: None
e climatic / hydrologic conditions on the site typical for				
e Vegetation, Soil, or Hydrology				present? Yes X_ No
re Vegetation, Soil, or Hydrology	naturally problematic?	(if ne	eded, explain any ansv	ers in Remarks.)
UMMARY OF FINDINGS – Attach site ma	p showing sampli	ng point lo	ocations, transect	s, important features, e
	No			
		he Sampled	Агеа	1
Wetland Hydrology Present? Yes X		hin a Wetlan	d? Yes 📝	No
Remarks: Study area is experiencing extreme	drought (U.S. Droug	ht Monitori	na).	6
TP excavated within wetland lil	a) influe coo	he for	op lealing to	4 405/000
IF becaution within working III	why introduced	of tour	no reason jim	n gappe.
EGETATION – Use scientific names of pl	ants.			
20(1	Absolute Dominan	t Indicator	Dominance Test wo	rksheet:
Tree Stratum (Plot size 30++	% Cover Species?		Number of Dominant	Species 3 (A
The second secon		FACW	That Are OBL, FACW	, or FAC: (A
2			Total Number of Dom	inant 3
3			Species Across All Si	rata: (B
4			Percent of Dominant	Species
Sapling/Shrub Stratum (Plot size: 544)	= Total C	over	That Are OBL, FACW	
1. Futur ormenacus	3	FAC	Prevalence Index w	orksheet:
2			Total % Cover of	Multiply by:
3			OBL species	x1=
4			FACW species	x 2 =
5,			· · ·	x 3 =
-0.	3 = Total C	over		x 4 =
Herb Stratum (Plot size: 5++)	70	Co		x 5 =
Juncus paters	V	FACW	Column Totals:	(A) (
2. Lythow Hystopitalia	2	OBL	Prevalence Inde	ex = B/A =
. Mesta pregim	-20 V	OBL	Hydrophytic Vegeta	tion Indicators:
testuca, prupplinaceg		FAC	1 - Rapid Test fo	r Hydrophytic Vegetation
Juncus balandert		OBL	X 2 - Dominance T	est is >50%
5. VACIASTNA		UPL	3 - Prevalence In	ldex is ≤3.0 ¹
CYPER W ERECTOSTIS		FACW	4 - Morphologica	Adaptations ¹ (Provide suppor
a				rks or on a separate sheet)
3			5 - Wetland Non	
10				rophytic Vegetation ¹ (Explain)
10	119	E/E		oil and wetland hydrology mus sturbed or problematic.
11	= Total Co	over 565		
11		200	Librature - to at	
11			Hydrophytic	
11 (Plot size:) 1				
11	= Total Co		Vegetation Present?	res 🗶 No

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Sampling Point: TP3 Consulting Engines

Profile Description: (Describe to the dep	oth needed to document the inc	dicator or confirm	the absence of	of indicators.)
Depth Matrix	Redox Features			Deventer
(inches) Color (moist) %	<u>Color (moist)</u> %	Type' Loc ²	Texture	Remarks
0-2 104R 3/2 100			SIL	
2-20+ 2.59 4/2 88	10VK5/8 6	C MIR	SiL	OCC. Charcon
	1048416 6	C MIPL	/	Automatical and another a
······································				
· · · · · · · · · · · · · · · · · · ·				
· · · · · · · · · · · · · · · · · · ·				
¹ Type: C=Concentration, D=Depletion, RM				ation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to al	LRRs, unless otherwise noted	1.)	Indicator	rs for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)			Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)			Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1)	(except MLRA 1)		Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)			r (Explain in Remarks)
Thick Dark Surface (A12)	Redox Dark Surface (F6)		³ Indicato	rs of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		nd hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		unles	s disturbed or problematic.
Restrictive Layer (if present):				
Туре:				./
Depth (inches):			Hydric Soil	Present? Yes <u>No</u> No
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:				
Primary Indicators (minimum of one require	ed: check all that apply)		Secor	dary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves	s (B9) (except		/ater-Stained Leaves (B9) (MLRA 1, 2,
Left High Water Table (A2)	MLRA 1, 2, 4A, ar			4A, and 4B)
Saturation (A3)	Salt Crust (B11)	,	Xo	rainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates	(B13)	2 4 million 2 4	ry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odd		s	aturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizosphere		ots (C3) G	eomorphic Position (D2)
X Algal Mat or Crust (B4)	Presence of Reduced	l Iron (C4)	S	hallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reductio	n in Tilled Soils (C6	6) 🗡 F.	AC-Neutral Teşt (D5)
Surface Soil Cracks (B6)	Stunted or Stressed F	Plants (D1) (LRR A	.) R	aised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (37) Other (Explain in Ren	narks)	F	rost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface	(B8)			
Field Observations:	N N	10		
Surface Water Present? Yes	No Depth (inches):			
Water Table Present? Yes	No X Depth (inches):	/A		$\mathbf{\mathbf{\nabla}}$
Saturation Present? Yes	No 🔼 Depth (inches): _N	/A Weti	land Hydrolog	y Present? Yes 🔼 No
(includes capillary fringe) Describe Recorded Data (stream gauge, n	anitoring well serial shotos are	vious inspections)	if available	
Beschoe Recorded Data (stream gauge, h	ionitoring wen, aenai priotos, pre	vious inspections),	n availabis.	
Remarks:				
Ot man land	into avitance also a	HHL	horing	1 undalogy
Delineation conducted d	uring extreme dong	it, likely (ubsaving	hydrology.
Defineation conducted d	uring extreme dong	it, likely (ubnaving	hydrologx.
Defineation conducted di	uring extreme drong	ht, likely (ubnouring	hydrologx.

oject/Site: Garberville	City/0	County Humboldt	t Sampling Date: 4/12/22
plicant/Owner: Garberville Sonitory Dist	rid		State: CA Sampling Point: TP 4
estigator(s): Joseph Saler, Cindy Wilcox	Sect	ion, Township, Rai	
ndform (hillslope, terrace, etc.): Hilblope + a	Loca	al relief (concave,	convex, none): Nore Slope (%): 2*
bregion (LRR): A, MLRA-4B	Lat: 40-1	05832°	Lorig: -123.786248 Datum: WGS 84
il Map Unit Name: 667: Dryfield - Yorknor	-12-Witheral		~30 /. NWI classification: None
e climatic / hydrologic conditions on the site typical for th			
Provide and the second s			"Normal Circumstances" present? Yes No
e Vegetation, Soil, or Hydrology		~~-~~	eeded, explain any answers in Remarks.)
		npling point le	ocations, transects, important features, etc
	No	Is the Sampled	
vdric Soil Present? Yes Vetland Hydrology Present? Yes		within a Wotlar	
temarks: Study area is experiencing ganetarian		rought Monitor	ring)
and a start a second range with	ought (0.0. D	ought Monitor	eaking the second to the
uplania rest pit to 1P3. Wotlan	a from w	atertank	above . No more water leaking & not
EGETATION – Use scientific names of pla	nts.		every adamingy
		minant Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 ft)	% Cover Spe	C /	Number of Dominant Species
traxinus latitelia	L	+ACW	That Are OBL, FACW, or FAC: (A)
1			Total Number of Dominant 3
			Species Across All Strata: (B)
			Percent of Dominant Species 33%
apling/Shrub Stratum (Plot size:	= To	otal Cover	That Are OBL, FACW, or FAC: (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
			OBL species x 1 =
	<u> </u>		FACW species x 2 =
			FAC species x 3 =
erb Stratum (Plot size: 5ft)	= To	otal Cover	FACU species x 4 = UPL species x 5 =
Lotyns, latitolius	22. 2	/ NL	Column Totals: (A) (B)
Bronnus bordeaceus	-15	FACU	
fromw diandru	1	NL	Prevalence Index = B/A =
Lisimacing accensis	20 ~	FAC	Hydrophytic Vegetation Indicators:
Germin dissection	18	NL	1 - Rapid Test for Hydrophytic Vegetation
testaca myutos,	20 1	NL	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
Erodium cicutorium	2	NL	4 - Morphological Adaptations ¹ (Provide supporting
Avena barbata	q	NL	data in Remarks or on a separate sheet)
Ryticosperma pericillation	7	NL	5 - Wetland Non-Vascular Plants ¹
			Problematic Hydrophytic Vegetation ¹ (Explain)
. / 1 /			Indicators of hydric soil and wetland hydrology must
, <mark>/ </mark>			
	109_= то	tal Cover 54.5	be present, unless disturbed or problematic.
loody Vine Stratum (Plot size:)	<u> 09</u> = To	tal Cover 54.5 21.8	· · · · · · · · · · · · · · · · · · ·
loody Vine Stratum (Plot size:)	<u> 09</u> = то	tal Cover 54.5 21.3	Hydrophytic
loody Vine Stratum (Plot size:)			· · · · · · · · · · · · · · · · · · ·
loody Vine Stratum (Plot size:)		tal Cover 54.5 21.8 tal Cover	Hydrophytic Vegetation
l (Plot size:)			Hydrophytic Vegetation
Bare Ground in Herb Stratum			Hydrophytic Vegetation

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Sampling Point: 11 Consulting Engine

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Profile Descr	ription: (Describe t	o the dep					THE RESCRICE	2
Depth	Matrix			x Features			-	Demode
(inches) 2-3	2.54 413	<u>%</u>	Color (moist)	%	Type'	Loce	SiL	Remarks
5-61	2.51 514	80	IOYR 416	18	C	m	sice	Fill
/	2.3		cophalt chun	-	-	/	/	
1-19	Asphaltchu	n 15 90		_	2	2		
	2.54514	10		_	_	/		Fill
19-24	2.59 514	95	2.57 413	5			Sice	
Type: C=Co lydric Soil li	ncentration, D=Dep ndicators: (Application	letion, RM=	Reduced Matrix, C	S=Covered	d or Coate	d Sand Gr	Indicator	ation: PL=Pore Lining, M=Matrix. 's for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (Muck (A10)
	pipedon (A2)		Stripped Matrix					Parent Material (TF2)
Black His	· ·		Loamy Mucky			IMLRA 1)		Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed		.)	۲.		r (Explain in Remarks)
	Below Dark Surface	e (A11)	Depleted Matri			1	³ Indicator	re of hydrophytic vegetation and
	ark Surface (A12)		Redox Dark Su					rs of hydrophytic vegetation and nd hydrology must be present,
	lucky Mineral (S1)		Depleted Dark		1)			s disturbed or problematic.
	Bleyed Matrix (S4)		Redox Depres	51011S (FØ)			unies	a databed of problematic.
_	Layer (if present):							
Туре:								
Depth (inc	ches):						Hydric Soil	Present? Yes No
temarks:								
YDROLO	GY							
Netland Hyd	drology Indicators:		d: check all that app) (VIC			Secon	ndary Indicators (2 or more required)
Vetland Hyd Primary Indic	drology Indicators: cators (minimum of c		All Control and the second	G1/2	/es (Β9) (ε	except		idary Indicators (2 or more required)
Vetland Hyd Primary Indic Surface	drology Indicators: cators (minimum of c Water (A1)		Water-St	ained Leav		except		idary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2,
Vetland Hyd Primary Indic Surface High Wa	drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		Water-Sta MLRA	ained Leav 1, 2, 4A , 1		except	v	ndary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Vetland Hyd Primary Indic Surface High Wa Saturatio	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3)		Water-St MLRA Salt Crus	ained Leav 1, 2, 4A, a at (B11)	and 4B)	except	w	ndary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
Vetland Hyd Primary Indic Surface High Wa Saturatic Water M	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1)		Water-St MLRA Salt Crus Aquatic I	ained Leav 1, 2, 4A , i it (B11) nvertebrate	and 4B) es (B13)	except	W D D	Indery Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
Vetland Hyd Primary Indic Surface High Wa Saturatio Water M Sedimer	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)		Water-St MLRA Salt Crus Aquatic II Hydroger	ained Leav 1, 2, 4A , i it (B11) nvertebrate n Sulfide O	and 4B) es (B13) edor (C1)		W D S	Indery Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		Water-St MLRA Salt Crus Aquatic II Hydroger Oxidized	ained Leav A 1, 2, 4A , s at (B11) nvertebrate n Sulfide O Rhizosphe	and 4B) es (B13) edor (C1) eres along	Living Roo	W D D S ots (C3) G	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2)
Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-St MLRA Salt Crus Aquatic II Hydroger Oxidized Presence	ained Leav A 1, 2, 4A , i it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct	and 4B) es (B13) edor (C1) eres along ed Iron (C	Living Roo 4)	W D D S S S	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) recomorphic Position (D2) hallow Aquitard (D3)
Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		Water-St MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Leav A 1, 2, 4A , it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct ron Reduct	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille	Living Roo 4) ed Soils (C6	W D D S S S S	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algat Ma Iron Dep Surface	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	one require	Water-St MLRA Salt Crus Aquatic In Hydroger Oxidized Presence Recent In Stunted o	ained Leav A 1, 2, 4A, It (B11) Invertebrate In Sulfide O Rhizosphe In Reduct In Reduct In Stressed	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille d Plants (C	Living Roo 4)	W D D S S S S F _) R	Adary Indicators (2 or more required) (ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Vetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundati	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial	ine require	Water-Sti MLRA MLRA Salt Crus Aquatic In Hydroger Oxidized Presence Recent In Stunted c	ained Leav A 1, 2, 4A , it (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct ron Reduct	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille d Plants (C	Living Roo 4) ed Soils (C6	W D D S S S S F _) R	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)
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Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Deg Algal Ma Iron Dep Surface Surface Surface Surface Water Surface Water Saturation Ph (includes cap Describe Re	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present?	Imagery (E e Surface 'es 'es	Water-St MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Stunted of Other (E) (B8) No Depth (i Depth (i	ained Leav 1, 2, 4A , i it (B11) nvertebrate n Sulfide O Rhizosphe of Reduct or Reduct or Stressec xplain in Re- nches): nches):	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille d Plants (C emarks) N/A N/A N/A	Living Roo 4) ed Soils (C6 D1) (LRR A	W D S ots (C3) G 3) F 3) F) F F	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) recomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Vetland Hyd Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Deg Algal Ma Iron Dep Surface Inundation Sparsely Field Obser Surface Water Saturation Pri (includes cap Describe Re	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present?	Imagery (E e Surface 'es 'es	Water-St MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Stunted of Other (E) (B8) No Depth (i Depth (i	ained Leav 1, 2, 4A , i it (B11) nvertebrate n Sulfide O Rhizosphe of Reduct or Reduct or Stressec xplain in Re- nches): nches):	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille d Plants (C emarks) N/A N/A N/A	Living Roo 4) ed Soils (C6 D1) (LRR A	W D S ots (C3) G 3) F 3) F) F F	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) recomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) raised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Wetland Hyd Primary Indic Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wate Saturation Pi (includes cap Describe Re	drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial y Vegetated Concav vations: er Present?	Imagery (E e Surface 'es 'es	Water-St MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Stunted of Other (E) (B8) No Depth (i Depth (i	ained Leav 1, 2, 4A , i it (B11) nvertebrate n Sulfide O Rhizosphe of Reduct or Reduct or Stressec xplain in Re- nches): nches):	and 4B) es (B13) dor (C1) eres along ed Iron (C ion in Tille d Plants (C emarks) N/A N/A N/A	Living Roo 4) ed Soils (C6 D1) (LRR A	W D S ots (C3) G 3) F 3) F) F F	Adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9 reomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)

roject/Site: Garberville		City/County: Humboldt		_ Sampling Date: 4/12/2
pplicant/Owner: Garberville Son			State: CA	_ Sampling Point: TP 5
vestigator(s): Joseph Saler, Cindy Wilco		Section, Township, Ra		7
andform (hillslope, terrace, etc.):		Local relief (concave,		
ubregion (LRR): A, MLRA-4B	Lat: 4	0.100 379°	Long: -123.79	2372 Datum: WGS 84
oil Map Unit Name: 311: UrbanLa	d-Garberville Com	dex, 5-15%	NWI classi	fication: None
re climatic / hydrologic conditions on the			X (If no, explain in	Remarks.)
re Vegetation, Soil, or H				" present? Yes X No
re Vegetation, Soil, or H			eded, explain any answ	
UMMARY OF FINDINGS - Att		g sampling point l	ocations, transec	ts, important features, e
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled	A	
Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes	within a Wetlar	nd? Yes	No
		<u></u>		
Remarks: Study area is experience In vacant lot. Drainge	mgermane arought (U.	the Banely horn	ing).	Aricsails not pute
developedand therefo	e ant classifier	1 ap 3-parama	ster wetlan	d
EGETATION – Use scientific r		(10) - j - i - i - i		7.
	Absolute	Dominant Indicator	Dominance Test wo	skahaoti
Tree Stratum (Plot size:		<u>Species?</u> <u>Status</u>	Number of Dominant	
			That Are OBL, FACW	/, or FAC: (A
2	<u> </u>		Total Number of Dom	ninaot 🛛
3			Species Across All St	
4			Percent of Dominant	Species 100'
Sapling/Shrub Stratum (Plot size:		= Total Cover	That Are OBL, FACW	
1,			Prevalence Index w	orksheet:
2			Total % Cover of	
3				x 1 =
4				x 2 =
5		• • • • • • • • • • • • • • • • • • • •		x 3 =
SEt	·	_ = Total Cover	FACU species	
Herb Stratum (Plot size:)+T	40	V FAC		x 5 = (A) (
Plantago Major Paatrivides		FAC		
Aprill eragiostis	10	FACW		ex = B/A =
Place annual		FAC	Hydrophytic Vegeta	
Rumex mspus	2	FAC	2 - Dominance T	r Hydrophytic Vegetation
Holais anatus	20	V FAC	3 - Prevalence in	
Juncus butorius	3	FACW		Adaptations ¹ (Provide support
Medicano Dolymorpha	6	FACM		rks or on a separate sheet)
Modicle Jordiniand	1_	FACU	5 - Wetland Non-	Vascular Plants ¹
o Allown triduetom	3	NL	Problematic Hydr	rophytic Vegetation ¹ (Explain)
1V				oil and wetland hydrology musi
Noody Vine Stratum (Plot size:	105	_= Total Cover 52.5	be present, unless di	sturbed or problematic.
· (Plot size	~	21		
			Hydrophytic Vegetation	
				V
6 Bare Ground in Herb Stratum	1	= Total Cover	Present? Y	/es 🔼 No

10

Sampling Point: 195 Consulting Engine

Wetland Hydrology Indicators: Secondary Indicators: Primary Indicators (minimum of one required; 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, 4A, and 4B) 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)		epth needed to document the indicator of commit	
Code::::::::::::::::::::::::::::::::::::			Troute-1 - (14.01) 11409-14
0B 75 V 8 3/1 (0) 13-241 0 VR 5/2 55 75 V 8 3/1 (0) 51L 13-241 0 VR 5/2 55 14 0 VR 5/2 55 15 16 51L 16 16 51L 17 16 16 16 17 16 16 16 17 16 16 16 16 17 16 16 16 16 16 18 18 10 16 16 16 16 16	The second s	- Redox Features	Texture Remarks
13-24+ NR 5/2* X5 7.5% 4/6 15 M Si CL "type:			<1
''Type: C-Concentration, D-Depletion, RM=Reduced Matrix (CS=Covered or Coated Sand Grains 'Location: PL=Pore Lining, M=Matrix. ''Type: C-Concentration, D-Depletion, RM=Reduced Matrix (CS) Indicators for Problematic Hydric Solis': - Histic Epideon (A2) Sandy Nedox (SS) - Depleted Below Dark Surface (A11) Depleted Matrix (F2) - Dopleted Dark Surface (F7) - Work (RA) - Sandy Mudy Mineral (S1) Depleted Matrix (F2) - Sandy Mudy Mineral (S1) Depleted Matrix (F2) - Depleted Matrix (S4) Redox Depressions (F8) Restrictive Layer (If present): - Writer Satinda Leaves (F7) - Type:	0-13 1.5 YK 2/11 100		
''Type: C-Concentration, D-Depletion, RM=Reduced Matrix (CS=Covered or Coated Sand Grains 'Location: PL=Pore Lining, M=Matrix. ''Type: C-Concentration, D-Depletion, RM=Reduced Matrix (CS) Indicators for Problematic Hydric Solis': - Histic Epideon (A2) Sandy Nedox (SS) - Depleted Below Dark Surface (A11) Depleted Matrix (F2) - Dopleted Dark Surface (F7) - Work (RA) - Sandy Mudy Mineral (S1) Depleted Matrix (F2) - Sandy Mudy Mineral (S1) Depleted Matrix (F2) - Depleted Matrix (S4) Redox Depressions (F8) Restrictive Layer (If present): - Writer Satinda Leaves (F7) - Type:	13-24+10YR 5/2 85	75YR 4/6 15 C M	SICL
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ : Histic Epideon (R2) Sandy Redox (S5)			
Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solis": Histosol (A1) Sandy Redox (S5) Histosol (A1) Stripped Matrix (S6) Histosol (A1) Learny Gleged Matrix (S6) Hydrog Sulfide (A4) Learny Gleged Matrix (F3) Hydrog Sulfide (A4) Depleted Batrix (F3) Thick Dark Surface (A11) Depleted Matrix (F3) Sandy Rudsy Mineral (S1) Depleted Dark Surface (F7) Sandy Cleged Matrix (S4) Redox Dark Surface (F7) Sandy Cleged Matrix (S4) Redox Dark Surface (F7) Sandy Cleged Matrix (S4) Redox Depressions (F8) Remarks: Solis Clesse #bhydrix - not am indicar for - Al12 gst. Wetland Hydrology Indicators: Hydric Soil Present? Primary Indicators (B2) MURA 1, 2, 4A, and 4B) Saturation (A3) Sali Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Saturation (A3) Sali Crust (B11) Saturation (A3) Saturation (C1) Saturation (A3) Saturation (C1) Saturation (A3) Resent Recorder Reduced Iron (C4) Sufface Soil Cracks (B3) Oxidized Rhizospheres along Living Roots (C3)	¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered or Coated Sand Gra	
	Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
			2 cm Muck (A10)
Inside Cuppoon (nucl) Image: Cuppoon (nucl) Image: Cuppoon (nucl) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (Explain in Remarks) Depieted Below Dark Surface (A12) Depieted Markik (F3) Image: Cuppoon (FB) Sandy Mucky Mineral (S1) Depieted Markik (F3) Image: Cuppoon (FB) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Image: Cuppoon (FB) Restrictive Layer (if present): Type: No Type:			
			³ Indicators of hydrophytic vegetation and
Build using Constant (Construction)	Sandy Mucky Mineral (S1)		
Type:		Redox Depressions (F8)	unless disturbed or problematic.
Depth (inches): Hydric Soil Present? Yes No Remarks: Soils close + bhydn'c - not an indica tor - All yet. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except	Restrictive Layer (if present):		
Depth (inches): Hydric Soil Present? Yes No Remarks: Soils close + bhydn'c - not an indica tor - All yet. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except	Туре:		
Remarks: Sbills clase to hydric - not an indica tor - AI2 yet. Wotland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Sail Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Water Marks (B1) Orsinage Patterns (B10) Stift Deposits (B2) Hydrogen Sufface Odd (C1) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Dirt Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stanted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inudation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): U.75 in No Field Observations: No Depth (inches): WFolce No Saturation Present? Yes No Depth (inches): WFolce No Depth (inches): WFolce Wetland Hydrology Present? Yes No No			Hydric Soil Present? Yes No
Soils close 4bhydn's - not an indika for -AIZ gd. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1)			
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1)			
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (except High Water Table (A2) MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B1) Water-Stained Leaves (B1) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) 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) Surface Water Present? Stainted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): D.15 Field Observations: No Depth (inches): Model Saturation Present? Yes No Depth (inches): Model Includes capillary fringe) Depth (inches): Model Vestartal No Depth (inches): Model D.15 No Depth<			
Milling Water Value (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4, and 4B) Migh Water Table (A2) MLRA 1, 2, 4A, and 4B) Uster-Stained Leaves (B10) Water Marks (B1) 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) 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) No Depth (inches): D.75 Field Observations: No Depth (inches): D.75 No Saturation Present? Yes No Depth (inches): Model Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if availab	HYDROLOGY		
A solitate (rif)	Wetland Hydrology Indicators:		
Saturation (A3)	Wetland Hydrology Indicators:	uired; check all that apply)	
Saturation (A3)	Wetland Hydrology Indicators: Primary Indicators (minimum of one requ		
Water Marks (B1)	Wetland Hydrology Indicators: Primary Indicators (minimum of one requests) Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Vide Humb (cf)	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
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) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): <u>Drepth (inches)</u> :	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): 0.25 No Depth (inches): 0.25 No Depth (inches): 0.75 No Depth No Depth (inches): 0.75 No Depth (inches): 0.75	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Iron Deposits (B5) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): 17.75 Saturation Present? Yes No Depth (inches): 17.75 Wetland Hydrology Present? Yes No Depth (inches): 17.75 No 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17.75 17	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Depth (inches): Depth (inches): Vestand Hydrology Present? Yes No Depth (inches): D	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2)
	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) 	Water-Stained Leaves (B9) (MLRA 1, 2, 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)
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks)Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? YesNoDepth (inches):75 Water Table Present? YesNoDepth (inches):75 Saturation Present? YesNoDepth (inches):75 Saturation Present? YesNoDepth (inches):75 UNFOCE Wetland Hydrology Present? YesNoDepth (inches):75 Depth (inches):76 Depth (inches):75 Depth (inches):76 Depth (inches):75 Depth (inches):76 Depth (inches):77 Depth (inches):7	Wetland Hydrology Indicators: Primary 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)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5)
	Wetland Hydrology Indicators: Primary 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)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) 6) FAC-Neutral Test (D5)
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Surface Water Present? Yes No Depth (inches): 0.05 in Water Table Present? Yes No Depth (inches): 11.75 Saturation Present? Yes No Depth (inches): 0.75 Saturation Present? Yes No Depth (inches): 0.75 Cincludes capillary fringe) No Depth (inches): 0.040000000000000000000000000000000000	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aigal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) 	Water-Stained Leaves (B9) (MLRA 1, 2, 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) N Raised Ant Mounds (D6) (LRR A)
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aigal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) 	Water-Stained Leaves (B9) (MLRA 1, 2, 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) N Raised Ant Mounds (D6) (LRR A)
Saturation Present? Yes No Depth (inches): Staturation Wetland Hydrology Present? Yes No (includes capillary fringe) Depth (inches): Staturation Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surfater Field Observations:	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) 	Water-Stained Leaves (B9) (MLRA 1, 2, 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) N Raised Ant Mounds (D6) (LRR A)
Saturation Present? Yes No Depth (inches): Saturation Wetland Hydrology Present? Yes No (includes capillary fringe) Depth (inches): Saturation Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Describe Describe	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surfater Field Observations:	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) ice (B8) No Depth (inches): <u>0.05</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) ots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) N Raised Ant Mounds (D6) (LRR A)
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surfater Field Observations: Surface Water Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants) Other (Explain in Remarks) Ice (B8) No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants) Other (Explain in Remarks) Ice (B8) No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aigal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfater Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) Ince (B8) No Depth (inches): <u>1.75</u> No Depth (inches): <u>Swfoce</u> Wet 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: · Extreme drought conditions, however ~ I in of precipitation in preceeding week. · Hydrology inputs from a d). imperious sourfaces.	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aigal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfater Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) Ince (B8) No Depth (inches): 1.75 No Depth (inches): Swfoce Wet 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
· Extreme drought conditions, however ~ I'm at precipitation in preceeding week. · Hydrology inputs from a d). imperious sartaces.	Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Aigal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfater Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C4) Stunted or Stressed Plants (D1) (LRR A) y (B7) Other (Explain in Remarks) Ince (B8) No Depth (inches): 1.75 No Depth (inches): Swfoce Wet 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) No
· Extreme dranght conditions, however in in precipitation	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surfat Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except 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 (C4 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants (D1) (LRR A Stunded or Stressed Plants) Other (Explain in Remarks) No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) obts (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) No
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· Hydrology inputs tran ad). imperious solutaces.	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surfat Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except 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 (C4 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants (D1) (LRR A Stunded or Stressed Plants) Other (Explain in Remarks) No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 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) land Hydrology Present? Yes No
	Wetland Hydrology Indicators: Primary 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 Imager Sparsely Vegetated Concave Surfat Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except 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 (C4 Stunted or Stressed Plants (D1) (LRR A Stunted or Stressed Plants (D1) (LRR A Stunded or Stressed Plants) Other (Explain in Remarks) No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 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) Frost-Heave Hummocks (D7) land Hydrology Present? Yes No
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ject/Site: Garberville	City/County: Humbold	dt	_ Sampling Date: 415/2
Dicant/Owner: Garberville Sanitary District		State: CA	Sampling Point: TP 6
estigator(s): Joseph Saler, Cindy Wilcox	Section, Township, R	ange:	
ndform (hillslope, terrace, etc.): Killslope Swale	Local relief (concave,	, convex, none): NoN	Slope (%):
pregion (LRR): A, MLRA-4B	10.095421	Long -123.793	278 Datum: WGS 84
Map Unit Name: Dryfield-Yorknorth-wither	ell complex 5-30%	to slope NWI classif	ication: None
climatic / hydrologic conditions on the site typical for this time or			
Vegetation, Soll, or Hydrology significant			
Vegetation, Soil, or Hydrology naturally		needed, explain any answ	
IMMARY OF FINDINGS – Attach site map showi			
	ng samping point	locations, transect	s, important features, e
ydrophytic Vegetation Present? Yes No 🗙 ydric Soil Present? Yes No 🗙	is the Sample	d Area	\sum
etiand Hydrology Present? Yes No	within a Wetla	and? Yes	<u>No X</u>
amarks: Study area is experiencing extreme drought	(U.S. Drought Monit	toring).	
P excavated in hills by e smalle axcavat	of for Jointe	of adi dover	av and have the mark
	to dianat	- or ug anome	1 and Interview July
GETATION – Use scientific names of plants.	•		
ee Stratum (Plot size:) % Cov	te Dominant Indicator	23131410000000	· · · · · · · · · · · · · · · · · · ·
		 Number of Dominant That Are OBL, FACW 	
		Total Number of Dom	2
		Species Across All St	
		Percent of Dominant \$	Species 50%
roling/Shrub Stratum (Plot size: 5ft)	= Total Cover	That Are OBL, FACW	or FAC: (A
Quercus Kellozaii 3	NL	Prevalence Index wo	200 200 202
JJ		Total % Cover of:	
			x 1 = x 2 =
· · · · · · · · · · · · · · · · · · ·			x 3 =
2			x 4 =
to Stratum (Plot sizes 5ff)	= Total Cover		x 5 =
Festuca anundinacea 72	FAC		(A) (i
Vicio Sativa 4	UPL		x = B/A =
Gerarium dissectum 7	NL	. Hydrophytic Vegetat	
tertuca myunas 25	- FACU	1 - Rapid Test for	Hydrophytic Vegetation
Daniens Chrota 1 Poa triviales 5	FACU	2 - Dominance Te	est is >50%
	fac	3 - Prevalence Inc	
		4 - Morphological	Adaptations ¹ (Provide support ks or on a separate sheet)
		5 - Wetland Non-V	
			ophytic Vegetation ¹ (Explain)
	and the second se	¹ Indicators of hydric se	oil and wetland hydrology musi
	= Total Cover 57		turbed or problematic.
ody Vine Stratum (Plot size:	21.0		
		Hydrophytic	N /
N Y	= Total Cover	Vegetation Present? Y	es No X
	- Total Cover		

Sampling Point: TP 6 Consulting Englises

Profile Description: (Describe to the depth needed to document the indicator or co	
10 St.	onfirm the absence of indicators.)
Depth Matrix Redox Features	pc ² Texture , Remarks
$\frac{\text{(inches)}}{\text{O}-5} \frac{\text{Color (moist)}}{\text{OVR } 3^{+}/2} \gg 99 7.5 \text{ YR } 5/8 < 1 C M$	SiL fill, abundant charcoal thoughout
15-24+2.54 6/3 50	SIGL IN LINE
7.5YR 5/8 50	Mixed Matrices
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sa	and Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	2 cm Muck (A10)
Histic Eplpedon (A2) Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3) Loamy Mucky Mineral (F1) (except ML	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	³ Indicators of hydrophytic vocatation and
Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):	
Туре:	
Depth (inches):	Hydric Soil Present? Yes No X
Remarks:	
HYDROLOGY Wetland Hydrology Indicators:	
	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	pt Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators : Primary Indicators (minimum of one required; check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) (excell High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Satt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	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 Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	mpt
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) X Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dy-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dy-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dy-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dy-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5) LRR A)
Wetland Hydrology Indicators : Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dy-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5) LRR A)
Wetland Hydrology Indicators : Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dy-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5) LIRR A)
Wetland Hydrology Indicators : Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5). LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5). LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5). LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5). LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ing Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) oils (C6) FAC-Neutral Test (D5). LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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Project/Site:Garberville	City/County: Humbolo	it Sampli	ing Date: 4/15/27
Applicant/Owner: Garberville Sanitary District		State: CA Sampli	
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, R		
Landform (hillslope, terrace, etc.): Hills ble	Local relief (concave	convex, none): Nave	Slope (%): 0
Subregion (LRR): A, MLRA-4B	Lat 40.097236°	Long -123, 79 489	Datum: WGS 84
Soil Map Unit Name: Tannin- Burgsblock -Re	ingalen complex 30-50	6 SLOPE NWI classification	Vone
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes No	X (If no explain in Remarks	1
Are Vegetation, Soil, or Hydrology		"Normal Circumstances" present?	
Are Vegetation, Soil, or Hydrology		eeded, explain any answers in Re	
SUMMARY OF FINDINGS – Attach site ma			
Hydrophytic Vegetation Present? Yes X			
Hydric Soil Present? Yes		d Area	./
Wetland Hydrology Present? Yes			o
Remarks: Study area is experiencing extreme	drought (U.S. Drought Moni	oring).	
TP excovated in wet slope adj	acit to roadway		
/EGETATION – Use scientific names of pla			
	Absolute Dominant Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 3014)	% Cover Species? Status	Number of Dominant Species	5
1. Frazinus latitalia	- HU HICW	That Are OBL, FACW, or FAC:	
2. <u>Salix kusio lepis</u> 3.	_ <u> 90 _ racw</u>	Total Number of Dominant	5
4		Species Across All Strata:	(B)
۲. ۲.	8() = Total Cover	Percent of Dominant Species	00%
Sapling/Shrub Stratum (Plot size: 547)		That Are OBL, FACW, or FAC: Prevalence index worksheet:	
1. Rubin armeniacus	15 V FAC	Total % Cover of:	
2		OBL species	
3		FACW species)	
5		FAC species	
Harth Stratum (Stations 5ft	IS = Total Cover	FACU species >	x 4 =
nero Stratum, (Pipt size:			x 5 =
2. Josa Xacun orticinale	-50 FAC	Column Totais: (A) (8
3. festuca a undinacea	- 30 - FACY	Prevalence Index = B/A =	
4. Vinca Major	T2 FACU	Hydrophytic Vegetation Indic	
5 Juncur potest	5 FACW	$\frac{1 - \text{Rapid Test for Hydrophy}}{X} 2 - \text{Dominance Test is } 50^{\circ}$	ylic Vegetation
B. Rumex crispus	2 FAC	A 2 - Dominance Test is >50° 3 - Prevalence Index is ≤3.	
Fragonia justa	FACU	4 - Morphological Adaptatio	-
9		data in Remarks or on a	i separate sheet)
9		5 - Wetland Non-Vascular I	
10		Problematic Hydrophytic Ve	
11	100	¹ Indicators of hydric soil and we be present, unless disturbed or	
Woody Vine Stratum (Plot size:)	102_= Total Cover 51.4		pronomatic.
1	ν,	Hudronbu ⁴¹ -	
2		Hydrophytic Vegetation	
	= Total Cover	Present? Yes X	No
% Bare Ground in Herb Stratum 13			

Sampling Point TP 7 asulting English

SVIL		
Profile Description: (Describe to the dept	h needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (mojst) %	Color (moist) % Type' Loc'	Texture Remarks
0-8 10YR 4/2 -99	7.5 YR 5/8 CI C M	DiL Rendex at bottom Lin at horizan
8-24+ 7.5YR 5/8 50	10VR6/3 25	SiL MILA ADDIE 605
<u>v</u> <u>ranna</u>	254 6/2+25 /	MXed Manice
		P
· · · · · · · · · · · · · · · · · · ·		
Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=Covered or Coated Sand Gri	ains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	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)	Very Shallow Dark Surface (TF12)
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)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		V
-		Hydric Soil Present? Yes No
Depth (inches):		
Depth (inches):	0 alla	
Depth (inches): Remarks: Iransitiona	l soils	
	l soils	
Remarks: Iransitiona HYDROLOGY	l soils	
Remarks: Transition a HYDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Remarks: Transition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required	d: check all that apply)	
Remarks: Transition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required 	d: check all that apply) Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Remarks: Transition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required 	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Remarks: IVMSition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required 	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Remarks: IVMSition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: IVMSition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Remarks: IVMSition a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Geomorphic Position (D2)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	Water-Stained Leaves (B9) (MLRA 1, 2, 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)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0	Water-Stained Leaves (B9) (MLRA 1, 2, 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)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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)	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0 Stunted or Stressed Plants (D1) (LRR A	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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	d: check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Rod — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C1 — Stunted or Stressed Plants (D1) (LRR A 7) — Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 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)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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)	d: check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Rod — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C1 — Stunted or Stressed Plants (D1) (LRR A 7) — Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations:	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0 Stunted or Stressed Plants (D1) (LRR A 7) Other (Explain in Remarks) (B8)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A)
Remarks: IVMOSITIONA HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations:	d: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C0 Stunted or Stressed Plants (D1) (LRR A 7) Other (Explain in Remarks) (B8)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A)
Remarks: IVMSition a HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations: Surface Water Present? Yes	d: check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Rod — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C1 — Stunted or Stressed Plants (D1) (LRR A 7) — Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A)
Remarks: Irwsition a HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Fleid Observations: Surface Water Present? Yes Water Table Present? Yes	d: check all that apply)	 Water-Stained Leaves (B9) (MLRA 1, 2, 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) Frost-Heave Hummocks (D7)
Remarks: Irwsition a HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a HYDROLOGY Wetland Hydrology Indicators: Primary 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 (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Irwsition a	d: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 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) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

roject/Site: Garberville	c	ty/County: Humboldt	Sampling Date: 4/15/1
pplicant/Owner: Garberville Sanitary District			State: CA Sampling Point: TP 8
ivestigator(s): Joseph Saler, Cindy Wilcox		ection, Township, Ra	
andform (hillslope, terrace, etc.): Hillslope	L	ocal relief (concave,	convex, none): None Slope (%):
ubregion (LRR): A. MLRA-4B	Lat: 40.	097243	Long: ~123.741494 Datum: WGS 8
oil Map Unit Name: Tannin-Burgsblock-R	lockyglen com	plep 30-50% =	Slope NWI classification: None
re climatic / hydrologic conditions on the site typical for	or this time of year	? Yes No	X (If no explain in Remarks.)
re Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes X No
re Vegetation, Soil, or Hydrology			eded, explain any answers in Remarks.)
			ocations, transects, important features,
Hydrophytic Vegetation Present? Yes	No		A A A A A A A A A A A A A A A A A A A
	No	is the Sampled	
	No	within a Wetlar	
Remarks: Study area is experiencing extrem			pring).
TP excavated in roadrid	o difch	ant work	nd.
EGETATION Use scientific names of p	plants.	• 010	
	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30-ff)	<u>% Cover</u> 30	Species? Status	Number of Dominant Species
2 Salx windra vor lasiondra	- 20-	FACW	That Are OBL, FACW, or FAC: (A
Frations lattelia	5	FACW	Total Number of Dominant
The the treatment		14000	Species Across All Strata:
54	55	Total Cover 27.5	Percent of Dominant Species That Are OBL, FACW, or FAC: JODX (A
Sapling/Shrub Stratum (Plot size: 54)	3	FAC	Prevalence Index worksheet:
2		TAC	
3.			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
terb Stratym (Plot size: 5 ft)	3	Total Cover	FACU species x 4 =
(GOX readisoni	20	V FAC	UPL species x 5 = Column Totals: (A) (
ASTACA ANA WARRAGE	50	FAC	
Jinas poters	2	FACW	Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
			$\sum_{i=1}^{n} 2^{i}$ - Dominance Test is >50%
			3 - Prevalence Index is $\leq 3.0^{1}$
			4 - Morphological Adaptations ¹ (Provide suppor
			data in Remarks or on a separate sheet)
·····			5 - Wetland Non-Vascular Plants ¹
0			Problematic Hydrophytic Vegetation ¹ (Explain)
1	77	36	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
Voody Vine Stratum (Plot size:)	14=	Total Cover 36	
		-	Hydrophytic
	1		Vegetation X
6 Bare Ground in Herb Stratum	1	Total Cover	Present? Yes / No
Remarks:			

Western Mountains, Valleys, and Coast - Version 2.0

				-10 0
SOIL				Sampling Point: 198
Profile Description: (Describe to the			the absence of	of indicators.)
Depth Matrix	Redox Features Color (moist) %	Type' Loc ²	Texture	Remarks
(inches) Color (moist) %	Color (moist)%			- Nonaixa
0-L 10413/2	- acutate 10			
2-10 10YR 3/2 4	1.7446 10	C M/PL	SIL	
10YR 4/2 70		- 1		
10-18 254612 60	10 VR 5/8 35	C M	Sich	10YR 5/8 incr. w/ depth
10 10 VR 4/2 5		~ ~		Mixed matrix
			ECI-	
18-24+2.5Y 6/2 50			Silt	Codominat matrices
104L 5/8 50				
'Type: C=Concentration, D=Depletion,	PM=Peduced Matrix CS=Covered	or Costed Sand Gr		ation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise note	d.)		rs for Problematic Hydric Soils3:
Histosol (A1)	Sandy Redox (S5)	- 1		n Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)			Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very	Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)			er (Explain in Remarks)
Depleted Below Dark Surface (A11				
Thick Dark Surface (A12)	Redox Dark Surface (F6)			rs of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	7)		nd hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		unies	s disturbed or problematic.
Restrictive Layer (If present):				
Туре:				Present? Yes No
Depth (inches):			Hydric Soil	Present? Yes No
Remarks:				ť
HYDROLOGY				
Wetland Hydrology Indicators:				
Primary Indicators (minimum of one rea	wind: check all that sonly)		Seco	ndary Indicators (2 or more required)
	Water-Stained Leav	an (BO) (avecant		Vater-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	Water-Stanled Leav MLRA 1, 2, 4A, a		_ •	4A, and 4B)
High Water Table (A2)		1110 40)	r	Drainage Patterns (B10)
Saturation (A3)	Salt Crust (B11) Aquatic Invertebrate	e (B13)		Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide O			Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)	Oxidized Rhizosphe			Geomorphic Position (D2)
Drift Deposits (B3) Algal Mat or Crust (B4)	Presence of Reduce			Shallow Aquitard (D3)
Algal Mat of Crust (B4) Iron Deposits (B5)	Recent Iron Reducti			AC-Neutral Test (D5)
Iron Deposits (B5) Surface Soil Cracks (B6)	Stunted or Stressed			Raised Ant Mounds (D6) (LRR A)
Surface Soli Cracks (BO) Inundation Visible on Aerial Image				Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surf				
Field Observations:		. T		
	No X Depth (inches):	JA		
Surface Water Present? Yes		Tin		A
Water Table Present? Yes	No Depth (inches): No Depth (inches):	-15	land Hydrolog	av Present? Yes X No
Saturation Present? Yes 🥥	NO LIANTH (IDCHAS):			
(includes capillary fringe)				y resentrines No

Remarks:

roject/Site: Garberville	Ci	y/County: Humbold	t	Sampling Date:	512
oplicant/Owner: Garberville Sanitary District				Sampling Point:	9
vestigator(s): Joseph Saler, Cindy Wilcox		ction, Township, Ra			
andform (hillslope, terrace, etc.): 1110 lope, 100	d ditch L	ocal relief (concave,	convex, none): None	Slope (%):	5
ubregion (LRR): A, MLRA-4B	Lat: 40.	097868°	Long -123.79	623" Datum: WGS	5 84
bil Map Unit Name: Tunnin - Burgsblock-Rock	yalen umpl	ex. 30-50% 5	looe NWI class	ification None	
e climatic / hydrologic conditions on the site typical fo					
e Vegetation, Soil, or Hydrology				-	
e Vegetation, Soil, or Hydrology			eeded, explain any ans		
UMMARY OF FINDINGS – Attach site m	ap showing s	ampling point I	ocations, transec	ts, important features	i, el
Hydrophytic Vegetation Present? Yes		In the Convelo			
Hydric Soil Present? Yes		is the Sampled within a Wetlan	nd? Yes	No	
Netland Hydrology Present? Yes Remarks: Study area is experiencing extrem					
sentence Study area is experiencing extrem	e arought (0.a	. Drought Wohld	oring).		
EGETATION – Use scientific names of p	lants.				
		Dominant Indicator	Dominance Test wo	orksheet:	
(Plot size: 30 ff)	% Cover	Species? Status	Number of Dominant	t Species	
Pseu dotsuga Meziosii	30	FACU	That Are OBL, FACV	V, or FAC:	(A)
J			Total Number of Dor	ninant 2	
l			Species Across All S	itrata:	(B)
	36	Total Cover	Percent of Dominant		
Sapling/Shrub Stratum (Plot size: 5ft)		Total Cover	That Are OBL, FACV		(A/8
Rubus armeniacus			Prevalence Index w	Net of	
			Total % Cover o		-
·				x 1 = x 2 =	
				x 3 =	
				x 4 =	
terb Stratum (Plot size: 5)		Total Cover		x 5 =	
Phalans aquatica	15	FACU	Column Totals:		
(UPETAS PITA 9705HS	3	FACW	Browslan and Ind	lex = B/A =	
Cordus avenaceshalls	20	V NL	Hydrophytic Vegeta		-
Galim of office		FACU	A.25 A.0.35 (345 (355 (356 (356 (356 (356 (356 (356 (35	or Hydrophytic Vegetation	
(at)-yrus latitalius	10	NL	2 - Dominance 1	est is >50%	
Brita making	10	NE	3 - Prevalence II	ndex is ≤3.0¹	
Granding dignatry	15	K NL	4 - Morphologica	al Adaptations ¹ (Provide supp	orti
Stellina Media		NL		irks or on a separate sheet)	
		FACU		-Vascular Plants ¹	•)
1				Irophytic Vegetation ¹ (Explain soil and wetland hydrology m	
	9 =	Total Cover 45.5		isturbed or problematic.	เมชเ
Voodv Vine Stratum (Plot size:)	-	Total Cover 45.5			
			Hydrophytic	N210 07	
			Vegetation	\vee	
			Present?	Yes No X	

Western Mountains, Valleys, and Coast - Version 2.0

Sampling Point: TP.9

1

1

Profile Descr	ription: (Describe	to the dep	th needed to docum	ent the	indicator	or contin	n the absence	or mulcat	ura.j		
Depth	Matrix			Feature	S						
(Inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture			emarks	
0-13	104R 312	100						O Clin	91	wei	
3-16	T. STR 54	50	104R 10/2	5	D	m	arls.	W.h	-	Fill	
	7.54R 516						5	3. 			
		10									
	-7							-			
			1								<u>.</u>
				-							
)				-							
'Type: C=Cc	oncentration, D=Dep	letion, RM	=Reduced Matrix, CS	=Covere	d or Coate	ed Sand C	Grains, ² Lo	cation: PL			
Hydric Soil I	ndicators: (Applic	able to all	LRRs, unless otherw	vise no	ted.)		Indicate	ors for Pro	oblema	ntic Hyd	ric Solls ³ :
Histosol	(A1)		Sandy Redox (S	5)			2 c	m Muck (A	10)		
Histic Ep	ipedon (A2)		Stripped Matrix (S6)				d Parent M			
Black His	stic (A3)		Loamy Mucky M	ineral (F	1) (excep	t MLRA 1		y Shallow			TF12)
	n Sulfide (A4)		Loamy Gleyed N	•	2)		Oth	er (Explain	n in Re	marks)	
	Below Dark Surfac	æ (A 11)	Depleted Matrix	• •			1				
	ark Surface (A12)		Redox Dark Sur					ors of hydr		~	
	lucky Mineral (S1)		Depleted Dark S					and hydrol			
	Sleyed Matrix (S4)		Redox Depressi	ons (FB)			ss disturbe	a or p	robiemai	.IC.
Restrictive l	Layer (if present):							242		· ·	/
Туре:											
Depth (ind	ches):						Hydric So	l Present	? Ye	s	
Remarks:											
1											
•											
HYDROLO	GY										
Wetland Hy	drology Indicators										
Wetland Hy	drology Indicators		ad: check all that soph	<i>v</i>)			<u>Sec</u>	ondary Ind	icators	(2 or m	(beriupan arc
Wetland Hy Primary India	drology Indicators		ad: chack all that apply		ives (B9) (except		the difference of the second sec			<u>ore required)</u> 9) (MLRA 1, 2,
Wetland Hy Primary India Surface	drology Indicators cators (minimum of Water (A1)		Water-Stai	ned Lea	ives (B9) (, and 4B)	except		the difference of the second sec	ined L		
Wetland Hy Primary India Surface High Wa	drology Indicators cators (minimum of Water (A1) ater Table (A2)		Water-Stai	ned Lea 1 , 2, 4A	, , ,	except		Water-Sta	ined Lo d 4B)	eaves (B	
Wetland Hy Primary India Surface High Wa Saturati	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)		Water-Stai MLRA ⁴ Salt Crust	ned Lea 1, 2, 4A (B11)	, and 4B)	except		Water-Sta 4A, and	ined Lo d 4B) Patterr	eaves (B is (B10)	9) (MLRA 1, 2,
Wetland Hy Primary India Surface High Wa Saturati Water M	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1)		Water-Stai MLRA ^ Sait Crust Aquatic Inv	ned Lea 1 , 2, 4A (B11) vertebra	, and 4B) tes (B13)	except		Water-Sta 4A, an Drainage I Dry-Seaso	ined Lo d 4B) Patterr on Wat	aves (B Is (B10) er Table	9) (MLRA 1, 2,
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen	ned Lea 1 , 2, 4A (B11) vertebra Sulfide I	, and 4B) tes (B13) Odor (C1)			Water-Sta 4A, an Drainage I Dry-Seaso	ined Lo d 4B) Patterr on Wat	eaves (B is (B10) er Table e on Aer	9) (MLRA 1, 2, (C2) ial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift De	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R	ned Lea 1 , 2, 4A (B11) vertebra Sulfide I Rhizospt	, and 4B) tes (B13) Odor (C1) neres along	g Living R		Water-Sta 4A, and Drainage I Dry-Seaso Saturation	ined Lo d 4B) Patterr on Wat Visible nic Pos	eaves (B Is (B10) er Table e on Aer ition (D2	9) (MLRA 1, 2, (C2) ial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift De Algal Ma	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Stai MLRA / Salt Crust Aquatic Inv Hydrogen : Oxidized R Presence of	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Rhizosph	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C	g Living R C4)		Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A	ined Lo d 4B) Patterr on Wat Visible nic Pos quitarc	eaves (B ls (B10) er Table e on Aer lition (D2 l (D3)	9) (MLRA 1, 2, (C2) ial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron Deg	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence c Recent Iro	ned Lea 1, 2, 4A (B11) vertebra Sulfide Sulfide Rhizosph of Redu n Redu	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till	g Living R C4) ed Soils (Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut	ined Lo d 4B) Patterr on Wat Visible nic Pos quitarc ral Tes	eaves (B er Table e on Aer ition (D2 I (D3) st (D5)	9) (MLRA 1, 2, (C2) ial Irnagery (C9) !)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Dej Algal Ma Iron Dej Surface	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6)	one require	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 6 Recent Iro Stunted or	ned Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu n Reduct Stresse	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R C4) ed Soils ((oots (C3) C6) A)	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar	ined Li d 4B) Patterr on Wat Visibl nic Pos quitarc ral Tes nt Mou	eaves (B er Table e on Aer lition (D2 l (D3) t (D5) nds (D6)	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift Del Algal Ma Iron Del Surface Inundati	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria	v v I Imagery (1	Water-Stai MLRA Salt Crust Aquatic Inv Aquatic Inv Oxidized R Presence 0 Recent Iro Stunted or Style	ned Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu n Reduct Stresse	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R C4) ed Soils ((oots (C3) C6) A)	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut	ined Li d 4B) Patterr on Wat Visibl nic Pos quitarc ral Tes nt Mou	eaves (B er Table e on Aer lition (D2 l (D3) t (D5) nds (D6)	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift De Algal Ma Iron De Surface Inundata Sparsel	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) s Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar	v v I Imagery (1	Water-Stai MLRA Salt Crust Aquatic Inv Aquatic Inv Oxidized R Presence 0 Recent Iro Stunted or Style	ned Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu n Reduct Stresse	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R C4) ed Soils ((oots (C3) C6) A)	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar	ined Li d 4B) Patterr on Wat Visibl nic Pos quitarc ral Tes nt Mou	eaves (B er Table e on Aer lition (D2 l (D3) t (D5) nds (D6)	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Primary India Surface High Wa Saturatia Vater M Sedimea Drift Dej Algal Ma Iron Dej Iron Dej Surface Inundatia Sparsel Field Obsert	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) s Soil Cracks (B6) ion Visible on Aeria ly Vegetated Concar rvations:	in require	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iro Stunted or B7) Other (Exp (B8)	ned Lea 1, 2, 4A (B11) vertebra Sulfide Shizosph of Redu n Reduc Stresse blain in F	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R C4) ed Soils ((oots (C3) C6) A)	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar	ined Li d 4B) Patterr on Wat Visibl nic Pos quitarc ral Tes nt Mou	eaves (B er Table e on Aer lition (D2 l (D3) t (D5) nds (D6)	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Del Algal Ma Iron Deg Surface Inundati Sparsel Field Observer	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present?	in require	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iro Stunted or B7) Other (Exp (B8)	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Rhizosph of Redu n Reduc Stresse Slain in F	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R C4) ed Soils ((oots (C3) C6) A)	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar	ined Li d 4B) Patterr on Wat Visibl nic Pos quitarc ral Tes nt Mou	eaves (B er Table e on Aer lition (D2 l (D3) t (D5) nds (D6)	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift De Algal Ma Iron De Surface Inundati Sparsel Field Obser	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present?	in require	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iro Stunted or B7) Other (Exp (B8)	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Rhizosph of Redu n Reduc Stresse Slain in F	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R (4) ed Soils (D1) (LRR		Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar Frost-Hea	ined Lo d 4B) Patterr on Wat Visible vition quitarc ral Tes at Mou ve Hu	eaves (B er Table e on Aer lition (D2 l (D3) et (D5) nds (D6) mmocks	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift Del Algal Ma Iron Del Surface Inundata Sparsel Field Observer Surface Wal Water Table Saturation F	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) soil Cracks (B6) ion Visible on Aeria y Vagetated Concar rvations: ter Present? Present?	in require	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen Oxidized R Presence o Recent Iro Stunted or B7) Other (Exp (B8)	ned Lea 1, 2, 4A (B11) vertebra Sulfide Rhizosph of Redu n Reduc Stresse blain in F ches): ches):	, and 4B) tes (B13) Odor (C1) heres along ced Iron (C ction in Till ed Plants (I	g Living R (4) ed Soils (D1) (LRR	(oots (C3) C6) A)	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar Frost-Hea	ined Lo d 4B) Patterr on Wat Visible vition quitarc ral Tes at Mou ve Hu	eaves (B er Table e on Aer lition (D2 l (D3) et (D5) nds (D6) mmocks	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron De Surface Inundati Sparsel Field Obser Surface Water Surface Water Saturation Fr Cincludes ca	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present? Present? Present?	l Imagery (ve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 0 Recent Iro Stunted or B7) Other (Exp (B8) No Depth (inv Depth (inv	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Chizosph of Redu Stresse olain in F ches): ches):	, and 4B) tes (B13) Odor (C1) neres along ced Iron (C ction in Till ad Plants (I Remarks)	g Living R (4) ed Soils (D1) (LRR	coots (C3) C6) A) etland Hydrold	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar Frost-Hea	ined Lo d 4B) Patterr on Wat Visible vition quitarc ral Tes at Mou ve Hu	eaves (B er Table e on Aer lition (D2 l (D3) et (D5) nds (D6) mmocks	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron De Surface Inundati Sparsel Field Obser Surface Water Surface Water Saturation Frieddes ca	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present? Present? Present?	l Imagery (ve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic Inv Aquatic Inv Hydrogen Oxidized R Presence 0 Recent Iron Stunted or B7) Other (Exp (B8) No Depth (inv	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Chizosph of Redu Stresse olain in F ches): ches):	, and 4B) tes (B13) Odor (C1) neres along ced Iron (C ction in Till ad Plants (I Remarks)	g Living R (4) ed Soils (D1) (LRR	coots (C3) C6) A) etland Hydrold	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar Frost-Hea	ined Lo d 4B) Patterr on Wat Visible vition quitarc ral Tes at Mou ve Hu	eaves (B er Table e on Aer lition (D2 l (D3) et (D5) nds (D6) mmocks	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimen Drift De Algal Ma Iron De Surface Inundata Sparsel Field Obser Surface Wat Water Table Saturation F (includes ca Describe Re	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present? Present? Present?	l Imagery (ve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 0 Recent Iro Stunted or B7) Other (Exp (B8) No Depth (inv Depth (inv	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Chizosph of Redu Stresse olain in F ches): ches):	, and 4B) tes (B13) Odor (C1) neres along ced Iron (C ction in Till ad Plants (I Remarks)	g Living R (4) ed Soils (D1) (LRR	coots (C3) C6) A) etland Hydrold	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar Frost-Hea	ined Lo d 4B) Patterr on Wat Visible vition quitarc ral Tes at Mou ve Hu	eaves (B er Table e on Aer lition (D2 l (D3) et (D5) nds (D6) mmocks	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron De Surface Inundati Sparsel Field Obser Surface Water Surface Water Saturation Frieddes ca	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria y Vegetated Concar rvations: ter Present? Present? Present?	l Imagery (ve Surface Yes Yes	Water-Stai MLRA Salt Crust Aquatic Inv Hydrogen 3 Oxidized R Presence 0 Recent Iro Stunted or B7) Other (Exp (B8) No Depth (inv Depth (inv	ned Lea 1, 2, 4A (B11) vertebra Sulfide I Chizosph of Redu Stresse olain in F ches): ches):	, and 4B) tes (B13) Odor (C1) neres along ced Iron (C ction in Till ad Plants (I Remarks)	g Living R (4) ed Soils (D1) (LRR	coots (C3) C6) A) etland Hydrold	Water-Sta 4A, and Drainage I Dry-Seaso Saturation Geomorph Shallow A FAC-Neut Raised Ar Frost-Hea	ined Lo d 4B) Patterr on Wat Visible vition quitarc ral Tes at Mou ve Hu	eaves (B er Table e on Aer lition (D2 l (D3) et (D5) nds (D6) mmocks	9) (MLRA 1, 2, (C2) ial Imagery (C9) ²⁾ (L RR A)
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: (ay berville	C	ity/County	HUM	bold + Sampling Date: 4/15/22
Applicant/Owner: Gamaril CSanitary Distri				
Investigator(s): Gindy wilcox, Joseph 5				
Landform (hillslope, terrace, etc.): Hillslope, 1600 01				
				Long: <u>-123, 791654</u> Datum: <u>NG5 84</u>
Soil Map Unit Name: Tannin - Burgsblock, Bicky				
Are climatic / hydrologic conditions on the site typical for this	s lime of year	r? Yes	No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology s	ignificantly d	isturbed?	Are "	Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology n	aturally prob	lematic?	(If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplin	ng point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X N	o			
Hydric Soil Present? Yes X N	o		ne Sampled	
Wetland Hydrology Present? Yes X N			nin a Wetlan	
Remarks: Drought monitoring index	puts this	is area	a in "e	Extreme" drought conditions
TP excavated in flat area adjace	ent to v	roadw	ay. Imp	civious surface & seepage provide
			9.	hydrology.
VEGETATION – Use scientific names of plan	ts.			4 - O
Tree Stratum (Plot size:	Absolute % Cover		t Indicator	Dominance Test worksheet:
		<u>Oberies</u> :	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2. The stratum				That Are OBL, FACW, or FAC: (A)
2. The stratum 3. not in cluded. Does not				Total Number of Dominant Species Across All Strata: 3 (B)
4. represent conditions				
		= Total Co	over	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 5 ft)		1	TA /	Prevalence Index worksheet:
1. RUBUS UNSINUS	+	V	FAL	Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4			·	FAC species x 3 =
5				FACU species x 4 =
Herb Stratum (Plot size: 5 FF)	_7_	= Total Co	over	UPL species x 5 =
1. Mentha pulcaium	12	V	OBL	Column Totals: (A) (B)
2. Epilobium Ciliatum	3		FACW	
3. Equisetum arvense	3		FAC	Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
4. Cypenis evaquostis	3		FACW	1 - Rapid Test for Hydrophytic Vegetation
5. Junius effusus	1		FACW	X 2 - Dominance Test is >50%
6. Holcus kanatus	le	V	FAL	$3 - \text{Prevalence Index is } \le 3.0^{1}$
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				¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 54)	28	= Total Co	ver 5.0	be present, unless disturbed or problematic.
1. Hedara helix	1		FALU	
2	· ·		Theo	Hydrophytic Vegetation
	1	Total Co		Present? Yes No
% Bare Ground in Herb Stratum 721.			1.41	
Remarks: The stratum not included in dom	inance	calcs	. Thees	are rooted in dry hillslook
of extend over isolated wettan) Cont	~ Sou	HAL VEA	due to shading a shirly
A ALLING OVER ISOLATED WETLAN	o itur	0.11]	disturbane.

Sampling Point: 1110

Profile Desc	ription: (Describe f	to the dep	th needed i	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		2.8	Redo	x Features	R			
(inches)	Color (moist)	%	Color (n	noist)	_%	Type'	Loc2	Texture	Remarks
0-7	2.54 4/2	95	5YR	4/4	5	C	MYL	SiL	
7-12	2.51 5/2	70	5YA	416	20	C	M	SILL	
			10 YR		10	(M	1	
	1010 1-11		IUTH	218	10		<u> </u>		
12-24+	104R 58	50	/	/				SILL	Mixed (o-dominant)
	254512	50	1		/	/	1	1	matriles
								1.1	
						·			
	 								
¹Type: C≃C	oncentration, D=Depl	letion, RM=	Reduced N	Aatrix, CS	S=Covered	or Coate	ed Sand Gra	ains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applica	able to all	LRRs, unle	ess other	wise note	ed.)		Indicate	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy	Redox (S	S5)			2 c	m Muck (A10)
Histic E	pipedon (A2)		Strippe	ed Matrix	(S6)				d Parent Material (TF2)
Black Hi	istic (A3)		Loamy	Mucky N	/lineral (F1) (excep	t MLRA 1)	Ver	y Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy	Gleyed	Matrix (F2))		Oth	er (Explain in Remarks)
Deplete	d Below Dark Surface	e (A11)	X Deplet	ed Matrix	: (F3)				
Thick Da	ark Surface (A12)		Redox	Dark Su	rface (F6)				ors of hydrophytic vegetation and
	/lucky Mineral (S1)		Deplet	ed Dark S	Surface (F	7)		wetla	and hydrology must be present,
	Gleyed Matrix (S4)		Redox	Depress	ions (F8)			unle	ss disturbed or problematic.
Restrictive	Layer (if present):								
Type:									
Depth (in	ches):							Hydric Soi	I Present? Yes 🗶 No
Remarks:									
HYDROLO	GY								
Wetland Hy	drology Indicators:								
Wetland Hy Primary India	drology Indicators: cators (minimum of o	ne require							ondary Indicators (2 or more required)
Wetland Hy Primary India Surface	drology Indicators: cators (minimum of o Water (A1)	ne require		Vater-Stai	ined Leave		əxcept		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India Surface High Wa	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	ne require	v	Vater-Stai	ined Leave 1, 2, 4 A , a		эхсерt	×	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India Surface High Wa Xaturati	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3)	ne require	v s	Vater-Stai MLRA Salt Crust	ined Leave 1, 2, 4A , a (B11)	ind 4B)	əxcept	X	Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India Surface High Wa Saturati Water M	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1)	ne require	V S A	Vater-Stai MLRA Salt Crust	ined Leave 1, 2, 4A , a (B11) vertebrate	s (B13)	except	X	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India Surface High Wa Saturati Water M	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3)	ne require	V S A	Vater-Stai MLRA Salt Crust	ined Leave 1, 2, 4A , a (B11)	s (B13)	except	_¥_	Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India Unit Surface High Wa Saturati Water M Sediment	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1)	ne require	v s f	Vater-Stai MLRA Salt Crust Aquatic Inv Iydrogen	ined Leave 1, 2, 4A, a (B11) vertebrate Sulfide Oc	and 4B) s (B13) dor (C1)	except	×	Water-Stained Leaves (B9) (MLRA 1, 2 , 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Primary India Surface High Wa X Saturatia Water Mater Mater Sedimela Drift Dep	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2)	ne require	V S A H	Vater-Stai MLRA salt Crust quatic Inv lydrogen Dxidized F	ined Leave 1, 2, 4A, a (B11) vertebrate Sulfide Oc	ond 4B) s (B13) dor (C1) res along	Living Roo	 ots (C3)	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 Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Algal Ma	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3)	ne require	V S A F C	Vater-Stai MLRA Galt Crust Aquatic Inv Iydrogen Dxidized F Presence	ined Leave 1, 2, 4A, a (B11) vertebrate Sulfide Oc Rhizospher of Reduce	and 4B) s (B13) dor (C1) res along d Iron (C	Living Roo	 ots (C3)	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)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimel Drift Deg Iron Deg	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ne require	V S H P R	Vater-Stai MLRA Galt Crust Aquatic Inv lydrogen Dxidized F Presence Recent Iro	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizosphei of Reduce in Reduct io	nd 4B) s (B13) dor (C1) res along d Iron (C on in Tille	Living Roo 4)		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 Hy Primary India Unit Surface High Wa Saturati Water M Sedimen Drift Den Algal Ma Iron Den Surface	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		V S C C R S	Vater-Stai MLRA Salt Crust Aquatic Inv Jydrogen Dxidized F Presence Recent Iro Stunted or	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizosphei of Reduce in Reduct io	s (B13) for (C1) res along d Iron (C on in Tille Plants (I	Living Roo 4) ed Soils (C6		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)
Wetland Hy Primary India Unit Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	magery (B	V S P R S 7) C	Vater-Stai MLRA Salt Crust Aquatic Inv Jydrogen Dxidized F Presence Recent Iro Stunted or	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduce Stressed	s (B13) for (C1) res along d Iron (C on in Tille Plants (I	Living Roo 4) ed Soils (C6		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Unit Surface High Wa Saturati Water M Sedimer Algal Ma Iron Dep Surface Inundati	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave	magery (B	V S P R S 7) C	Vater-Stai MLRA Salt Crust Aquatic Inv Jydrogen Dxidized F Presence Recent Iro Stunted or	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduce Stressed	s (B13) for (C1) res along d Iron (C on in Tille Plants (I	Living Roo 4) ed Soils (C6		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Use Saturati High Wa Saturati Water M Sedimer Drift Deg Algal Ma Iron Deg Surface Inundati Sparsel	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave rvations:	magery (B e Surface (V S P R S 7) C B8)	Vater-Stai MLRA Salt Crust Aquatic Inv lydrogen Dxidized F Presence of Recent Iro Stunted or Dther (Exp	ined Leave 1, 2, 4A , a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduct Stressed blain in Re	s (B13) for (C1) res along d Iron (C on in Tille Plants (I marks)	Living Roo 4) ed Soils (C6		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedimed Drift Del Algal Ma Iron Deg Surface Inundati Sparsel Field Obser	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations: er Present? Y	magery (B e Surface (es	V A H C P R S 7) C B8)	Vater-Stai MLRA salt Crust Aquatic Inv lydrogen Dxidized F Presence Recent Iro Stunted or Dther (Exp Depth (inc	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduce Stressed blain in Re	s (B13) dor (C1) res along d Iron (C on in Tille Plants (I marks)	Living Roo 4) ed Soils (C6		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Y	magery (B e Surface (es es		Vater-Stai MLRA salt Crust lydrogen Dxidized F Presence Recent Iro stunted or Dther (Exp Depth (inc Depth (inc	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduction Stressed blain in Re ches): ches):	s (B13) for (C1) res along d Iron (C on in Tille Plants (I marks)	Living Roo 4) ad Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Y Present? Y	magery (B e Surface (es es	V A H C P R S 7) C B8)	Vater-Stai MLRA salt Crust lydrogen Dxidized F Presence Recent Iro stunted or Dther (Exp Depth (inc Depth (inc	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduction Stressed blain in Re ches): ches):	s (B13) for (C1) res along d Iron (C on in Tille Plants (I marks)	Living Roo 4) ad Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedime Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Y	magery (B e Surface (es es es		Vater-Stai MLRA salt Crust lydrogen Dxidized F Presence Recent Iro stunted or Dther (Exp Depth (inc Depth (inc	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduction Stressed blain in Re ches): ches):	s (B13) for (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A) - 7 in	Living Roo 4) ad Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedime Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Y Present? Y pillary fringe)	magery (B e Surface (es es es		Vater-Stai MLRA salt Crust lydrogen Dxidized F Presence Recent Iro stunted or Dther (Exp Depth (inc Depth (inc	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce in Reduction Stressed blain in Re ches): ches):	s (B13) for (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A) - 7 in	Living Roo 4) ad Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift Deg Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial 1 y Vegetated Concave vations: cer Present? Y Present? Y Present? Y pillary fringe) coorded Data (stream	magery (B Surface (es es gauge, mo	V S A P R S 7) C B8) No I No I No I	Vater-Stai MLRA salt Crust liquatic Inv ligdrogen Dxidized F Presence Recent Iro Stunted or Other (Exp Depth (inv Depth (inv Depth (inv light, aerial)	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce of Reduce on Reduction Stressed blain in Re ches): ches): ches): photos, pre-	s (B13) dor (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A N A N A N A N A N A	4) ed Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift Deg Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial 1 y Vegetated Concave vations: cer Present? Y Present? Y Present? Y pillary fringe) coorded Data (stream	magery (B Surface (es es gauge, mo	V S A P R S 7) C B8) No I No I No I	Vater-Stai MLRA salt Crust liquatic Inv ligdrogen Dxidized F Presence Recent Iro Stunted or Other (Exp Depth (inv Depth (inv Depth (inv light, aerial)	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce of Reduce on Reduction Stressed blain in Re ches): ches): ches): photos, pre-	s (B13) dor (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A N A N A N A N A N A	4) ed Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift Deg Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Y Present? Y pillary fringe)	magery (B Surface (es es gauge, mo	V S A P R S 7) C B8) No I No I No I	Vater-Stai MLRA salt Crust liquatic Inv ligdrogen Dxidized F Presence Recent Iro Stunted or Other (Exp Depth (inv Depth (inv Depth (inv light, aerial)	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce of Reduce on Reduction Stressed blain in Re ches): ches): ches): photos, pre-	s (B13) dor (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A N A N A N A N A N A	4) ed Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift Deg Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial 1 y Vegetated Concave vations: cer Present? Y Present? Y Present? Y pillary fringe) coorded Data (stream	magery (B Surface (es es gauge, mo	V S A P R S 7) C B8) No I No I No I	Vater-Stai MLRA salt Crust liquatic Inv ligdrogen Dxidized F Presence Recent Iro Stunted or Other (Exp Depth (inv Depth (inv Depth (inv light, aerial)	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce of Reduce on Reduction Stressed blain in Re ches): ches): ches): photos, pre-	s (B13) dor (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A N A N A N A N A N A	4) ed Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift Deg Algal Ma Iron Deg Surface Inundati Sparsel Field Obser Surface Water Table Saturation P (includes ca Describe Re	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) ion Visible on Aerial 1 y Vegetated Concave vations: cer Present? Y Present? Y Present? Y pillary fringe) coorded Data (stream	magery (B Surface (es es gauge, mo	V S A P R S 7) C B8) No I No I No I	Vater-Stai MLRA salt Crust liquatic Inv ligdrogen Dxidized F Presence Recent Iro Stunted or Other (Exp Depth (inv Depth (inv Depth (inv light, aerial)	ined Leave 1, 2, 4A, a (B11) vertebrate: Sulfide Oc Rhizospher of Reduce of Reduce on Reduction Stressed blain in Re ches): ches): ches): photos, pre-	s (B13) dor (C1) res along d Iron (C on in Tille Plants (I marks) N A N A N A N A N A N A N A N A	4) ed Soils (C6 01) (LRR A		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: (ACN/OKVVIILL	C	City/County	Hem	16010 + Sampling Date: 4/15/22
Applicant/Owner: (ACAL BOY VILL SUNITAR	1 Dist	11+		State: (A Sampling Point: TPI)
Investigator(s): Cividy Willox, Joseph	Scales	Section To	washia Rar	
Landform (hillslope, terrace, etc.): Hillslope, 100.000	touna	Local rolief	(conceve c	
				Long: -173,791507 Datum: 11/0544
Soil Map Unit Name: TOMMIN - BUSOSDOCH - COCK	Adon C	wohux	20-50	1. Slotte NVVI classification: Marco
Are climatic / hydrologic conditions on the site typical for thi				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology I	naturally prot	olematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N				
Hydric Soil Present? Yes N	lo _X		e Sampled in a Wetlan	
Wetland Hydrology Present? Yes N				
Remarks: On 1002 fill prism about				
Drought monitoring ind < x Sho	ws this	area	actu	extreme drought conditions
VEGETATION – Use scientific names of plan	nts.			
7.000	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30)	<u>% Cover</u>		And the second second	Number of Dominant Species
1. Salia lasion pis	- 30		FACIN	That Are OBL, FACW, or FAC: (A)
2. Pseudotsuga meinztesii			FALU	Total Number of Dominant Species Across All Strata: (B)
۵				Species Across All Strata: (B)
	40	= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC: $33^{1/1}$ (A/B)
Sapling/Shrub Stratum (Plot size:)		/		That Are OBL, FACW, or FAC: <u>9,51/2</u> (A/B) Prevalence Index worksheet:
1. Rubus WSINUS	- 7		EACU	Total % Cover of:Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 3 =
5				FACU species x 4 =
Herb Stratum (Plot size: 5++)		= Total Co	ver	UPL species x 5 =
1. Carex hendersonii	15	~	FAC	Column Totais: (A) (B)
2. Equesetum arvense	Z		FAC	Prevalence Index = B/A =
3. Vinca major	7	~	FACU	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			<u> </u>	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) ¹ Indicators of hydric soil and wetland hydrology must
11	14	- Total Co	- 12	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 544,)		= Total Cov	4.4	
1. Hedera helix	25	V	FACU	Hydrophytic
2				Vegetation
% Bare Ground in Herb Stratum 761.	25	= Total Cov	/er	Present? Yes No
Remarks: 7	- C - Cl	11.00		
sare ground as a result	or shu	ioing	a ven	icular (muchanical disturbance
		-		

Sampling Point: TPI

Profile Description: (Describ	e to the dep	oth needed to docum	nent the l	ndicator o	or confirm	the absence of	f indicators.)
Depth Matrix			x Features				
(inches) Color (moist)	%	Color (moist)	_%	<u>Type'</u>	Loc ²	Texture	Remarks
0-125 104R32	- 99	IOYR4/U	<u> </u>	<u> </u>	M	<u>9:1</u>	
12.5-24 1 2.57 0/3	60	1048 4 W	10	<u> </u>	M	SCL	
254 612	30		1				
3		-	·				
·							
						·	
· · · · · · · · · · · · · · · · · · ·							
¹ Type: C=Concentration, D=De					d Sand Gra	ains. ² Loca	tion: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Appl	icable to all	LRRs, unless other	wise note	ed.)		Indicators	s for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redox (S					Muck (A10)
Histic Epipedon (A2)		Stripped Matrix					Parent Material (TF2)
Black Histic (A3)		Loamy Mucky N			MLRA 1)		Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Depleted Below Dark Surfa	00 (411)	Loamy Gleyed I Depleted Matrix)		Other	(Explain in Remarks)
Thick Dark Surface (A12)		Redox Dark Su				³ Indicators	s of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Depleted Dark \$	• •	7)			d hydrology must be present,
Sandy Gleyed Matrix (S4)		Redox Depress		'			disturbed or problematic.
Restrictive Layer (if present):							
Туре:							
Depth (inches):						Hydric Soil P	Present? Yes No X
Remarks:							
HYDROLOGY							
Wetland Hydrology Indicators	s:						
Primary Indicators (minimum of		d; check all that appl	v)			Second	dary Indicators (2 or more required)
Surface Water (A1)		Water-Sta		es (B9) (e	kcept		ater-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)			1, 2, 4A, a				4A, and 4B)
Saturation (A3)		Salt Crust					ainage Patterns (B10)
Water Marks (B1)		Aquatic In	vertebrate	s (B13)			y-Season Water Table (C2)
Sediment Deposits (B2)		Hydrogen	Sulfide O	dor (C1)		Sa	turation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Oxidized F	Rhizosphe	res along	Living Roc	ots (C3) Ge	eomorphic Position (D2)
Algal Mat or Crust (B4)		Presence	of Reduce	d Iron (C4)	Sh	allow Aquitard (D3)
Iron Deposits (B5)		Recent Iro	n Reducti	on in Tille	d Soils (C6	i) FA	C-Neutral Test (D5)
Surface Soil Cracks (B6)		Stunted or	Stressed	Plants (D	1) (LRR A) Ra	ised Ant Mounds (D6) (LRR A)
Inundation Visible on Aeria	l Imagery (E	37) Other (Exp	plain in Re	emarks)		Fro	ost-Heave Hummocks (D7)
Sparsely Vegetated Conca	ve Surface	(B8)					
Field Observations:		a di maran		i.			
Surface Water Present?	Yes	No K Depth (in		and the second s			
Water Table Present?	Yes	No X Depth (in			-		
Saturation Present?	Yes	No 📩 Depth (in	ches): 🔼	JA	Wetla	and Hydrology	Present? Yes No X
(includes capillary fringe) Describe Recorded Data (strea	m gauge, m	onitoring well, aerial	photos, pr	evious ins	pections)	if available:	
		3			,		
Remarks:							

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: <u>(Alwbernilu</u> City/County: <u>Hwmbold t</u> Sampling Date: <u>4/15/2</u>	2
Applicant/Owner: CAUDENNILL Sanitary District State: CA Sampling Point: TP12	
Investigator(s): CINAL WILLOY, JOSEPH SALES Section, Township, Range:	
Landform (hillslope, terrace, etc.): Hillslope, food side (CWinkLocal relief (concave, convex, none): N(MA Slope (%): 3	
Subregion (LRR): A, MLPA - 4B Lat: 40.097742 Long: -123.797791 Datum: WG3	84
Soil Map Unit Name: TANNIN - BURGSMOCK-ROCKIQUED 30-501. STOPES NWI classification: NOM	-
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No	
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, et	tc.
Hydrophytic Vegetation Present? Yes No X*	
Hydric Soil Present? Ves V No Is the Sampled Area	
Remarks: Drought monitoring index puts this area in "extreme drought" condition	5
At bottom of drainage swall above Melville Rd * petpotesional judgement. Veg.	č
VEGETATION - Use scientific names of plants.	9
Absolute Dominant Indicator Dominance Test worksheet: <u>Tree Stratum</u> (Plot size: <u>% Cover</u> Species? Status Number of Dominant Species	
1. Number of Definition and Species 1 (A)	
2. TRANS NOT MODIFIC THE DOMENTICATION TOTAL	
3 Species Across All Strata: (B)	
4 = Total Cover Percent of Dominant Species 2514 (A/E	
Sapling/Shrub Stratum (Plot size: 5+1.)	3)
1 Pubus atmeniacus 20 FAC Prevalence Index worksheet: Total % Cover of: Multiply by:	
2 OBL species x1 =	
$3.$ FACW species $x_2 = \emptyset$	
4 FAC species $20 \times 3 = 60$	
5. 20 = Total Cover FACU species 54 x 4 = 216	
Herb Stratum (Plot size: × 5 =	
1. Talling grandiflora 15 V FACU Column Totals: 79 (A) 276 (B)
2. <u>Cacilium a parine</u> <u>L</u> <u>FACU</u> Prevalence Index = B/A = <u>3.7</u> 3. Nemarini 100 5	
3. Wenning house 5 Hydrophytic Vegetation Indicators:	
4. Stellutia mudia Acy 1 - Rapid Test for Hydrophytic Vegetation	
5. Polystichum munitum 10 V FACY 2- Dominance Test is >50%	
b. 3 - Prevalence Index is ≤3.01 7. 4. Merebalagical Adaptations1 (Provide supportion)	
7.	ים
9 5 - Wetland Non-Vascular Plants ¹	
10 Problematic Hydrophytic Vegetation ¹ (Explain)	
11 ¹ Indicators of hydric soil and wetland hydrology must	
Weady Vine Stratum (Blat aircr 56) 56	
woody vine stratum (Plot size:)	
Hydrophytic	
2 Vegetation Present? Yes No X	
% Bare Ground in Herb Stratum 5	
High I, bare yound due to shading a leas litter. There stratum not	
Remarks: High 1, bare yound due to shading a leaf litter. The stratum not included in dominance cales as they are rooted in dry hillslope abou We than	2

SOIL

Sampling Point: 112

Profile Descrip	tion: (Describe (to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix			x Feature:		2	- .	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	<u>Type'</u>	Loc ²	Texture	Remarks
	10YR412	100	A = 4.4				SiL	
6-201	10 VR 4/2	90	5724/6	10	<u> </u>	M	SL	
		s	i				<u> </u>	· · · · · · · · · · · · · · · · · · ·
·								
							-	
			Reduced Matrix, CS			ed Sand Gra		ocation: PL=Pore Lining, M=Matrlx.
-		able to all L	RRs, unless othe		ed.)			tors for Problematic Hydric Soils ³ :
Histosol (A	·	÷	Sandy Redox (cm Muck (A10)
Histic Epipe Black Histic		-	Strlpped Matrix Loamy Mucky 1		1) (avean			ed Parent Material (TF2) ery Shallow Dark Surface (TF12)
Hydrogen S		-	Loamy Gleyed	•				ther (Explain in Remarks)
	elow Dark Surface	e (A11)	Depleted Matrix		•,			
	Surface (A12)		Redox Dark Su				³ Indica	ators of hydrophylic vegetation and
Sandy Muc	ky Mineral (S1)		Depleted Dark	Surface (F	7)		wei	land hydrology must be present,
	ed Matrix (S4)		Redox Depress	ions (F8)			unle	ess disturbed or problematic.
Restrictive Lay	er (if present):							
Type:								N N
	es):					_	Hydric So	bil Present? Yes X No
Remarks:								
HYDROLOG	7							
-	logy Indicators:						0	
		ne required	; check all that appl		(20) (Sec	condary Indicators (2 or more required)
Surface Wa			Water-Sta			except	—	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water				1, 2, 4A, a	ana 46)		V	4A, and 4B) Drainage Patterns (B10)
Saturation (Salt Crust Aquatic In		(P13)		\bigtriangleup	Drainage Patterns (B10) Dry-Season Water Table (C2)
	Deposits (B2)		Aquatic in Hydrogen		. ,			Saturation Visible on Aerial Imagery (C9)
Drift Depos						Living Roo	ts (C3) 🔀	Geomorphic Position (D2)
	r Crust (B4)		Presence	-	-			Shallow Aquitard (D3)
Iron Deposi						d Soils (C6	i) <u> </u>	FAC-Neutral Test (D5)
	il Cracks (B6)		Stunted o	r Stressed	l Plants (D)) (LRR A)		Raised Ant Mounds (D6) (LRR A)
Inundation	Visible on Aerial I	magery (B7						Frost-Heave Hummocks (D7)
Sparsely V	egetated Concave	e Surface (E	38)					
Field Observat	ions:				J.,			
Surface Water F	Present? Y	es N	No 🔣 Depth (in	iches): 📥				
Water Table Pre	esent? Y	es 🔏 🛛 🖻	No Depth (in	iches): 10	e	_		
Saturation Pres		es 🗶 M	No Depth (in	iches): ڬ	urtai	🗻 Wetla	and Hydrold	ogy Present? Yes X No
(includes capilla Describe Recor		gauge mo	nitoring well, aerial	photos. p	revious in	spections)	if available	· · · · · · · · · · · · · · · · · · ·
		344301110		b				
Remarks:	S1 1			_		27 - CA-12		
	hillside	streo	im croper	is	to d	ain	into	this wetland
					-			
fCOLTU C	~ohhor .	.] "	etland hi	Paore	J.			

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: (ACM Dervilla	(City/County: HM	1001 cl Sampling Date: <u>4 (15/2</u> 2
Applicant/Owner: Chalberville San tany	Distric	st i	State: Sampling Point:
Investigator(s): (inchy Will.ox, Jozeph			
Landform (hillslope, terrace, etc.): Hillside, 1000ds	ide	Local relief (concave, o	convex, none): <u>NOnc</u> Slope (%): <u>15</u>
Subregion (LRR): A. M.R.A46	Lat: 40	'52FFP0.	Long: -123. 792331 Datum: WG584
Soil Map Unit Name: TADDio-BUCOSHOCK-1	200 Kings	10 COMPLEX 1	30-50 NNWI classification: <u>NUNA</u>
Are climatic / hydrologic conditions on the site typical for th	in time of the	2 Yos No	
			Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site map			eded, explain any answers in Remarks.)
			ocations, transects, important features, etc.
Hydrophylic Vegetation Present? YesN Hydric Soil Present? YesN		Is the Sampled	Area
Wetland Hydrology Present? Yes		within a Wetlar	
Remarks: Mfill prism above			
	Violu 24	AVELIN	Vilian & driver + 11 Cap Milian
VEGETATION – Use scientific names of plan		anain "2	x theme drought " Conditions
VEGETATION - Ose sciencific names of plai	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 F+	<u>% Cover</u>	<u>Species?</u> Status	Number of Dominant Species
1. PSCUdatsuga menziesii	30	V FALU	That Are OBL, FACW, or FAC: (A)
2. Arbutus inductiesai	- 25	VIVL	Total Number of Dominant
3			Total Number of Dominant (e Species Across All Strata: (B)
4			Percent of Dominant Species 27
Sapling/Shrub Stratum (Plot size: 574)		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> , (A/B)
1. Acex maix ophyllum	2	FACU	Prevalence Index worksheet:
2. Pubus armeniacus			Total % Cover of: Multiply by:
3. ROSA AUTKANG		FAC	OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
East	17	= Total Cover 3.2	FACU species x 4 =
Herb Stratum (Plot size: 5 Ft.)	0		UPL species x 5 =
1. Holcus lanates 2. Tristum clinuum		FAC	Column Totals: (A) (B)
		FACU	Prevalence Index = B/A =
3. Myorons sylvatica 4. Carex handessoniai	_ 15	FAC	Hydrophytic Vegetation Indicators:
5. Stelleria media	1	<u>FAC</u> FACU	1 - Rapid Test for Hydrophytic Vegetation
6. Nevnophila heterophylla	2	NE	2 - Dominance Test is >50%
7. Palystichun munitum	1	V FALU	3 - Prevalence Index is <3.0'
8.	+		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9			5 - Welland Non-Vascular Plants
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11			¹ Indicators of hydric soil and wetland hydrology must
~ f .	31	= Total Cover 19.5	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 5 ft)		6.0	
1. HRdrig hulix		V FACU	Hydrophytic
2	30		Vegetation Present? Yes No X
% Bare Ground in Herb Stratum	70	= ⊺otal Cover	
	1	interest of	dense ladera Luis and
Bavegrand in herb stratum	us u		mine trately minx cover

SOIL

Sampling Point: 1913

	n the absence	e of indicators.)
Depth Matrix Redox Features		
(inches) Color (moist) % Color (moist) % Type ¹ Loc ²	Texture	Remarks
	SEL	(<u></u>)/
3-245 104R4/3 100 11001212		fill Wasphart
10 YR 6/10 ZO WIN Mattick redox		
10 YR 3/2 20 / 101015 - NOT 12 005		
10YR4/4 1 C M		
		s :
		·
		· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Gr		ocation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicat	tors for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)		cm Muck (A10)
Histic Epipedon (A2) Stripped Matrix (S6)		ed Parent Material (TF2)
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1)		ry Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Ot	her (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)	³ Indica	tors of hydrophytic vegetation and
Nedox Dark Surface (A12) Redox Dark Surface (F7)		and hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Depressions (F8)		ess disturbed or problematic.
Restrictive Layer (if present):	1	
Туре:		
Depth (inches):	Hydric So	il Present? Yes No 🔀
Remarks:		
HYDROLOGY		
HYDROLOGY Wetland Hydrology Indicators:		
	Sec	ondary Indicators (2 or more required)
Wetland Hydrology Indicators:		ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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 Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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 Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		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) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)



WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Garberville	City/County: Humboldt Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Date:
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Range: Sampling Found
Landform (hillstope, terrace, etc.): Hillstope swale	
	at: 10.095442 Long: -123.793774 Datum: WGS 84
Soil Man Unit Name Drufield York north - with	erell complex 5- 30% (GAR) WI classification: None
	e of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology signi	
Are Vegetation, Soil, or Hydrology signi Are Vegetation, Soil, or Hydrology nature	
	ally problematic? (If needed, explain any answers in Remarks.) wing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland? Yes No
Remarks: Prexcavated at law point in hillshape	swale. Stream is ~ 20 ft south of TP, eploned
VEGETATION – Use scientific names of plants.	
	solute Dominant Indicator Dominance Test worksheet: <u>Cover Species? Status</u> Number of Dominant Species
1. QUARTEUS helloggii	5 NL Number of Dominant Species 1 (A)
2. Funus cerasitetas	0 NL Total Number of Dominant
3, ,	Species Across All Strata: (B)
4	Percent of Dominant Species 50% (A/B)
Sapling/Shrub Stratum (Plot size: 5ft)	8 FAC Prevalence Index worksheet:
1. Rybus armeniacus	
2	
4	FACW species x 2 =
5	FAC species x 3 =
54	FACU species x 4 =
Herb Stratum (Plot size: 217)	G D/(1) Catura Tatala (A)
1. Phalaris aquatica	6 (A) (B)
3. Dactilis clampratia	Prevalence Index = B/A =
	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
5	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
6	
7	4 - Morphological Adaptations ¹ (Provide supporting
8	data in Remarks or on a separate sheet)
9	
10	
117	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	= Total Cover
1	Hydrophytic
2	Venetation
% Bare Ground in Herb Stratum 12	= Total Cover Present? Yes No
Remarks:	X N L X L L
Parse Leboceaus cour. Bare grind	includer thatch+Litter

SOIL

Sampling Point: TP 14 solling Engineer

743 W. 0.3 20	needed to document the indicator or confirm	and Ebeenies of Indicators.)
Depth <u>Matrix</u> (inches) Color (moist) %	Redox Features Color (moist) % Type ¹ Loc ²	Texture Remarks
1-26+ 10XR3/3 80 -	7.548 3/4 LIN C. M	
10X8 3/2 20 -	The party of the p	Sich Mixed Mothices
		N/OCC. chorcoal+9/2015
		· · · · · · · · · · · · · · · · · · ·
		· ·
'Type: C=Concentration, D=Depletion, RM=R	educed Matrix, CS=Covered or Coated Sand Gra	
Hydric Soil Indicators: (Applicable to all LF		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)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1) (except MLRA 1) Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (TF12) 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)	_ Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:	<u> </u>	
Depth (inches):		Hydric Soil Present? Yes No 🔀
Remarks:		Shards observed @ 24 inclus.
Wellowed Serv. Sur	and it por the order ,	Jui a matrice (a Zrincip.
HYDROLOGY		
Wetland Hydrology Indicators:		
	check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1)	check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) 	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 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 Hydrology Indicators: Primary Indicators (minimum of one required; of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of a 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)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of 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 (B7) Sparsely Vegetated Concave Surface (B8)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of surface Water (A1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) s (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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nsulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

& Geologisis, Inc.			0/17/02
Project/Site: Garberville	City/County: Humboldt		_ Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District		State: CA	_ Sampling Point: TP 15
Investigator(s): Joseph Saler, Clndy Wilcox	Section, Township, Range		
Landform (hillslope, terrace, etc.): Hillslope	Local relief (concave, con	vex, none): Non	ع Slope (%):6
Subregion (LRR): A, MLRA-4B	40.095 60° 1	ing: -123.79	2261° Datum: WGS 84
Soil Map Unit Name: Py field - Yorknorth-wit	herell complex 5-30	9/0 (Watki) classif	ication: None
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes 🔀 No	(If no, explain in	Remarks.)
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "Nor	mal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology natural	y problematic? (If neede	d, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	ving sampling point loca	ations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes No			

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes		is the Sampled Area within a Wetland?	Yes	No
Remarks: TP excavated at slight	t break	inslope in	field.		

VEGETATION – Use scientific names of plants.

26	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)		Species? Status	1
1			Number of Dominant Species That Are OBL, FACW, or FAC:
	•	· · · · · · · · · · · · · · · · · · ·	
2			Total Number of Dominant 7
3			Species Across All Strata: (B)
4.			
4		= Total Cover	Percent of Dominant Species 50% (A/B)
Sapling/Shrub Stratum (Plot size:		Total Cover	That Are OBL, FACW, or FAC: (A/B)
			Prevalence Index worksheet:
1			Total % Cover of:Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =
4 5	1		FAC species x 3 =
		= Total Cover	FACU species x 4 =
Herb Stratum (Plpt size: Str			UPL species x 5 =
Holdens Stolovida o	70	FAC	Column Totals: (A) (B)
2. Fettura annalinarea	9	FAC	Prevalence Index = B/A =
3. Anthologhum oderation	25	FACU	
4. RUMEX all solla	4	FACU	Hydrophytic Vegetation Indicators:
		1100	1 - Rapid Test for Hydrophytic Vegetation
5. Hypochaeris radicata	1	HACY	2 - Dominance Test is >50%
6			$3 - Prevalence Index is \leq 3.0^{1}$
7			
8			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)
	-);	· ·	¹ Indicators of hydric soil and wetland hydrology must
11,			be present, unless disturbed or problematic.
	10	= Total Cover	
Woody Vine Stratum (Plot size:)		20	
1			Hydrophytic
2			Vegetation Present? Yes No
N		= Total Cover	Present? Yes No 🔼
% Bare Ground in Herb Stratum	1		
	1	N.	
Vestation celatively homogo	Ind 1	within now	od Lilslove nasting
Vertation celdively homogo	In I		provide provide of

OIL Brofile Departations: (Departies to the d		Sampling Point: TP 15 Scolage
	lepth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix (inches) Color (moist) %	<u>Redox Features</u> <u>Color (moist)</u> %%_Type ¹ _Loc ²	Texture Remarks
0-4 104R3/2 70		S: / Remarks
		SICE Mixed Mainles
10YR 3/3 30		
1-24+ 104R3/3 95	/ / / /	SiC MINOJACTICA
- 10YR3/2 5		INN MAINAMICO
5 2		
Type: C=Concentration, D=Depletion, R	RM=Reduced Matrix, CS=Covered or Coated Sand Gra	ains. ² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to a	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls 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)	Very Shallow Dark Surface (TF12)
_ 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)	Redox Depressions (F8)	unless disturbed or problematic.
lestrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:	ath laws	
well drained Shipping	sois, becoming more clay	with dath
well drained Shipping	soils, becoming more day	with dath.
well drained Shiping	sois, becoming more day	with dept L.
v	sois, becoming more clay	with dept L.
(DROLOGY	sois, becoming more clay	with dept L.
/DROLOGY /etland Hydrology Indicators:	J /	With dath .
/DROLOGY /etland Hydrology Indicators:	red; check all that apply)	With dath.
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one require _ Surface Water (A1)	red; check all that apply) Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
/DROLOGY /etland Hydrology Indicators: cimary Indicators (minimum of one require _ Surface Water (A1) _ High Water Table (A2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
/DROLOGY /etland Hydrology Indicators: _ cimary Indicators (minimum of one require _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
/DROLOGY /etland Hydrology Indicators: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
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/DROLOGY /etland Hydrology Indicators: <u>rimary Indicators (minimum of one requined</u> _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3)	red; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Root	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) S (C3) Geomorphic Position (D2)
/DROLOGY /etland Hydrology Indicators: <u>rimary Indicators (minimum of one requined</u> _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3) _ Algal Mat or Crust (B4)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root Presence of Reduced Iron (C4)	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)
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	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roof Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks)	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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YDROLOGY Vetland Hydrology Indicators: Crimary 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 (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Y		Mater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) nd Hydrology Present? Yes No
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requir 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 (Sparsely Vegetated Concave Surface ield Observations: Furface Water Present? Yes Vater Table Present? Yes Caturation Present? Yes	red: check all that apply)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Saturatin Visible on Aerial Imagery (C9)
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	red: check all that apply)	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 (D9) Saturatin Visible on Aerial Imagery (D9)
/DROLOGY /etland Hydrology Indicators: cimary 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 (Sparsely Vegetated Concave Surface (etd Observations: Unface Water Present? Yes fater Table Present? Yes faturation Present? Yes concludes capillary fringe) escribe Recorded Data (stream gauge, r	red; check all that apply)	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 (D9) Saturatin Visible on Aerial Imagery (D9)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one requir 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 (Sparsely Vegetated Concave Surface Ad Observations: rface Water Present? Yes ater Table Present? Yes turation Present? Yes Cudes capillary fringe) Scribe Recorded Data (stream gauge, r	red: check all that apply)	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 (D9) Saturatin Visible on Aerial Imagery (D9)



Ming Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

c Geologists, Inc.	2/12/23
	nty: Humboldt Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Point: IV I6
	Township, Range:
Landform (hillslope, terrace, etc.): Hillslope Local re	lief (concave, convex, none): None Slope (%): 3%
Subregion (LRR): A, MLRA-4B Lat: 40.094	943 Long: -123.792644° Datum: WGS 84
Soil Map Unit Name: 667 - Dyfield - York north - witherell co	mplex 5-30% NIMI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	
Are Vegetation, Soil, or Hydrologysignificantly disturbed	
Are Vegetation, Soil, or Hydrology naturally problematic	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sample	ing point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
	ithe Sampled Area ithin a Wetland? Yes No
vvetiand Hydrology Present? Yes A No	
	pipeline trench which appears to
conv & saturation and storm water to-	the surface giving artificial hydrology
VEGETATION – Use scientific names of plants.	
Absolute Domina	ant Indicator Dominance Test worksheet:
Tree Stratum (Plot size:) <u>% Cover</u> Specie 1.	Sr 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 (A/B)
Sapling/Shrub Stratum (Plot size:	Prevalence Index worksheet:
	Total % Cover of: Multiply by:
2	OBL species x 1 =
4	FACW species x 2 =
5	FAC species x 3 =
	Cover FACU species x 4 =
Herb Stratum (Plot size 21)	UPL species x 5 =
Aquestis stolegitera 87 V	(A)(B)
2. Kynex acetosella 1	Prevalence Index = B/A =
3. Antra Xanthur Odoratur 10	Hydrophytic Vegetation Indicators:
4 Totalium rubermen 4	NL 1 - Rapid Test for Hydrophytic Vegetation
5. Hypochagnis radicata 1	FACU 2 - Dominance Test is >50%
6	3 - Prevalence Index is ≤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 [03 = Total 0	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	Cover
1	Hydrophytic
2	Vegetation V
% Bare Ground in Herb Stratum	Cover Present? Yes <u>No</u> <u>No</u>
Remarks: Agrostis cave higher in former trench	location where grandwater
100000000	

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

SOIL

Sampling Point: TP 6 Sulling Fingine

	depth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	Total and the second se
$\frac{(\text{inches})}{(1)}$ $\frac{(\text{color (moist)})}{(1)}$ $\frac{\%}{3}$	<u>Color (moist)</u> <u>%</u> <u>Type'</u> <u>Loc</u> ²	Remarks
0-16+ 104R4/3 90	2 7.5 YR 3/3 5 C M	Sic
Type: C=Concentration D=Depletion	RM=Reduced Matrix, CS=Covered or Coated Sand Gr	ains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	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)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11		
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):		Hydric Soil Present? Yes No 📈_
Remarks:	1 1	
Disturbed from past	trenching and fill.	
2		
	J	
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one req		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one reg	Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Primary Indicators (minimum of one reg Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Primary Indicators (minimum of one reg Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Primary Indicators (minimum of one req Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	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)
Primary Indicators (minimum of one reg 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)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	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) Shałłow Aquitard (D3)) FAC-Neutral Test (D5)
Primary Indicators (minimum of one reg 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)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A)	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) Shałłow Aquitard (D3)) FAC-Neutral Test (D5)
Primary Indicators (minimum of one reg 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 Imager	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7)Other (Explain in Remarks)	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)
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Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) ce (B8) No Depth (inches): NA No Depth (inches): Wetla monitoring well, aerial photos, previous inspections), I	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No f available:
Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surfate Field Observations: Surface Water Present? Yes Saturation Present? Yes </td <td>Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) ce (B8) No Depth (inches): NA Depth (inches): MA Wette</td> <td>Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No f available:</td>	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) ce (B8) No Depth (inches): NA Depth (inches): MA Wette	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No f available:
Primary Indicators (minimum of one reg 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 Imager 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	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) ce (B8) No Depth (inches): NA No Depth (inches): Wetla monitoring well, aerial photos, previous inspections), I	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) And Hydrology Present? Yes No
Primary Indicators (minimum of one reg 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 Imager 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	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) ce (B8) No Depth (inches): NA No Depth (inches): Wetla monitoring well, aerial photos, previous inspections), I	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:
Primary Indicators (minimum of one reg 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 Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) (B7) Other (Explain in Remarks) ce (B8) No Depth (inches): NA No Depth (inches): Wetla monitoring well, aerial photos, previous inspections), I	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No f available:



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oject/Site: Garberville	C	ity/County: Humboldt		_ Sampling Date: 2/17/23
plicant/Owner Garberville Sanitary District			State: CA	Sampling Point: 1917
vestigator(s): Joseph Saler, Cindy Wilcox	s	ection, Township, Ra		
ndform (hillslope, terrace, etc.): hill slope	1	ocal relief (concave,	convex, none): NOV	Slope (%): 2
bregion (LRR): A, MLRA-4B	Lat: 40,	014654°	Long: - 123.79	3137 Datum: WGS 84
il Map Unit Name: 667-Dryfield - Yorknorth	h-Witheren	complex 5-3	0% NWI classi	fication: None
e climatic / hydrologic conditions on the site typical for	this time of yea	r? Yes 🔀 No _		Remarks.)
e Vegetation, Soil, or Hydrology	_ significantly d	isturbed? Are "	Normal Circumstances	" present? Yes 🔀 No 🔄
e Vegetation, Soil, or Hydrology	naturally prob		eded, explain any ansv	
JMMARY OF FINDINGS – Attach site ma			ocations transpool	important factures of
	57			is, important reatures, e
lydrophytic Vegetation Present? Yes lydric Soil Present? Yes	< Y	is the Sampled	Area	V
Vetland Hydrology Present? Yes		within a Wetlar		No 🗶
Remarks: to La land			aler al	-2 (CI) 2
IT ACAMOUS IN MONTO	Sholing	tield, near	western ed	ige of held in
proposed tonh location.				J
EGETATION – Use scientific names of pla	ants.			
ree Stratum (Plot size:		Dominant Indicator	Dominance Test wo	rksheet:
, (FIDE SIZE.	70 COver	Species? Status	Number of Dominant That Are OBL, FACW	
			Total Number of Dom Species Across All St	
•				21
Continue (Charles Classical Content	1	= Total Cover	Percent of Dominant That Are OBL, FACW	
Sapling/Shrub Stratum (Plot size:)			Prevalence Index w	orksheet:
			Total % Cover of	
				x 1 =
				x2=
	<u> </u>			x 3 =
lerb Stratum (Ptot size: 5ft)	1	= Total Cover		x 4 = x 5 =
Hypchaens radicata	40	V FACU	Column Totals:	
Totalitan Subtarraneum	42	1 NL		
That oris admostica	-1	FACU	Hydrophytic Vegeta	ex = B/A =
Agrostis strontorg	3	FAC		r Hydrophytic Vegetation
Authoxanthun adoration	5	FACU	2 - Dominance T	
tostyca myuros		FACU	3 - Prevalence In	ndex is ≤3.0¹
Rumex acostosella	_1	FACU		I Adaptations ¹ (Provide support
`				rks or on a separate sheet)
·			5 - Wetland Non-	
0				rophytic Vegetation ¹ (Explain) soil and wetland hydrology must
1	96	Total Cover 48		sturbed or problematic.
Voody Vine Stratum (Plot size:)	10	TOTAL COVEL		
			Hydrophytic	
	1		Managara	res No
Bare Ground in Herb Stratum		Total Cover		(uo <u>'</u>
	-			

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

		GM
		to 17 ling Engineers
SOIL		Sampling Point: IF J ologists, Inc.
	th needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features	Texture , Remarks
0-1 7.5YR 4/4 10		C (L V/ L
1010 3/3 90		Sich Mixed motices
2 014 25 10 114 00		
1-24+ 1.5 YK4/4 40		Sic Mixed Matrices
OVK3/3O		/

Hydric Soit Indicators: (Applicable to all	=Reduced Matrix, CS=Covered or Coated Sand Gra	
Histosol (A1)	Sandy Redox (S5)	Indicators for Problematic Hydric Solis ³ :
Letter Histosof (A1)	Sandy Redux (S5) Stripped Matrix (S6)	2 cm Muck (A10) Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (ST)	Depleted Dark Surface (F7) Redox Depressions (F8)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No 🔀
Soils have been dis	sturbed infle past.	
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required	d; 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)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1) Sediment Deposits (B2)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Root	Saturation Visible on Aerial Imagery (C9)
		rs (C3) Coomparable Parillion (D2)
Algal Mat or Crust (B4)		
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Shallow Aquitard (D3) FAC-Neutral Test (D5)
Iron Deposits (B5)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
<pre> Iron Deposits (B5) Surface Soil Cracks (B6)</pre>	 Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 	Shallow Aquitard (D3) FAC-Neutral Test (D5)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B' Sparsely Vegetated Concave Surface (Field Observations: 	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8)	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B' Sparsely Vegetated Concave Surface (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8)	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B' Sparsely Vegetated Concave Surface (Field Observations: 	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) BB)	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (I Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes 	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8) No Depth (inches): N/A Depth (inches): N/A	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B' Sparsely Vegetated Concave Surface (I Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) 	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) Depth (inches): N/A Depth (inches): N/A Wetla	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B' Sparsely Vegetated Concave Surface (I Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) 	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8) No Depth (inches): N/A Depth (inches): N/A	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
 Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B' Sparsely Vegetated Concave Surface (I Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) 	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B8) No Depth (inches): N/A Depth (inches): N/A Depth (inches): N/A Wetla onitoring well, aerial photos, previous inspections), in	Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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Consulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

r Geologists, Inc.			
Project/Site: Garberville	City/County: Humboldt		Sampling Date: 2/17/23
Applicant/Owner: Garberville Sanitary District		State: CA	Sampling Point: 18
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Ran	nge:	
Landform (hillslope, terrace, etc.):	Local relief (concave, c	convex, none):	e Slope (%): 5-10
Subregion (LRR): <u>A, MLRA-48</u> Soil Map Unit Name: <u>667-Dy field-York north-with</u>	erell complex 5-30	16 NWI classifi	cation: None
Are climatic / hydrologic conditions on the site typical for this time			
Are Vegetation, Soil, or Hydrology signification	antly disturbed? Are "	Normal Circumstances"	present? Yes 🔀 No
Are Vegetation, Soil, or Hydrology natural		eded, explain any answe	
SUMMARY OF FINDINGS – Attach site map show	ing sampling point lo	ocations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled within a Wetlan	Area nd? Yes	No X
TP EXCOVATEd in sloping, maved f	reld. well-drain	ned	
VEGETATION – Use scientific names of plants.			
Tree Stratum (Plot size:) Abso	lute Dominant Indicator over Species? Status	Dominance Test wor Number of Dominant S	
1.		That Are OBL, FACW.	

1	<u>% GOVEL</u>	<u>opecies</u> Status	Number of Dominant Speci That Are OBL, FACW, or F.		(A)
2			Total Number of Dominant	1	-
3		· ·	Species Across All Strata:		(B)
4,	1	= Total Cover	Percent of Dominant Speci That Are OBL, FACW, or F		(A/B)
Sapling/Shrub Stratum (Plot size:			Prevalence Index worksh	eet:	
1		· · · · · · · · · · · · · · · · · · ·	Total % Cover of:	Multiply by:	
2		•	OBL species	x 1 =	
3	·	· · · · ·	FACW species	x 2 =	
4			FAC species		
5			FACU species		
Herte Stratum (Plot size: 5++)	-	= Total Cover	UPL species	-	
1. Arthexarthum adoration	72	FACH	Column Totals:		
2. Hypochaeris radicata	14	facu	Prevalence Index = E	3/A =	
3. Fostinca Myneas	2	FACU	Hydrophytic Vegetation I	ndicators:	
4 Holens layotus	0	FAC	1 - Rapid Test for Hydr	ophytic Vegetation	
5. Agrostic Stolenitera		FAC	2 - Dominance Test is	>50%	
6,			3 - Prevalence Index is	i ≤3.0 ¹	
78			4 - Morphological Ada; data in Remarks or	otations ¹ (Provide sup on a separate sheet)	
9			5 - Wetland Non-Vasco	ular Plants ¹	
10			Problematic Hydrophy	tic Vegetation ¹ (Expla	ain)
11			¹ Indicators of hydric soil an		must
~	102	= Total Cover SI	be present, unless disturbe	d or problematic.	
Woody Vine Stratum (Plot size:)		20.4			
1			Hydrophytic		
2			Vegetation	No X	
% Bare Ground in Herb Stratum	7	_= Total Cover	Present? Yes _	No	
Remarks:	P	1	he col		
relatively homogenous	i Insu	rounding area	. Moved.		
/ V		·			

SOIL

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Matrix inches) Color (moist) -244 7.5//R 4/3	Redox Features Color (moist) % Type1 Loc2	Texture Remarks
		Sic
ype: C=Concentration, D=Depletion, Rt ydric Soll Indicators: (Applicable to a _ Histosol (A1)	M=Reduced Malrix, CS=Covered or Coated Sand Gra II LRRs, unless otherwise noted.) Sandy Redox (S5)	ains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Solls ³ : 2 cm Muck (A10)
_ Histic Epipedon (A2) _ Black Histic (A3) _ Hydrogen Sulfide (A4) _ Depleted Below Dark Surface (A11)	 Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except MLRA 1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) 	 Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
_ Thick Dark Surface (A12) _ Thick Dark Surface (A12) _ Sandy Mucky Mineral (S1) _ Sandy Gleyed Matrix (S4)	Bepleted Walls (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
estrictive Layer (if present): Type: Dapth (inches):		Hydric Soil Present? Yes No
soils homogeneus		A,
DROLOGY		
etland Hydrology Indicators:		

Primary Indicators (minimum of one required; c	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 Ro	ots (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 (C	6) FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR /	
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): <u>N/A</u>	
Water Table Present? Yes No	Depth (inches): N/A	
Saturation Present? Yes No (includes capillary fringe)	Depth (inches): NA Wet	land Hydrology Present? Yes No 📉
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspections)	if available:
Remarks:		
Well drained slope. Non	mail precipitation, most re	cat Gintal 3 days prior
	1 1 1	

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Consulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

z Geologists, Inc.	-10/01
Project/Site: Garberville	City/County: Humboldt Sampling Date: 5/9/75
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Point: TP 19
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Range:
Landform (hillslope, terrace, etc.): Hils of, road cut	Local relief (concave, convex, none): Nove Slope (%): 38
	tt: 40.095423° Long: -123.794596° Datum: WGS 84
Soil Man Hoit Name: 461-Tannin - Burnablock - 6	Rocky glen complex 30-59 Wi classification: None
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrology signification	
Are Vegetation, Soil, or Hydrology natural	ally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	wing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	
Hydric Soil Present? Yes No	is the Sampled Area
Wetland Hydrology Present? Yes X No	within a Wetland? Yes <u>No</u>
Remarks: TP, excavated in hilloft, readcut	t wetland. Likely a grandwater table insercepted by
He roadent that now produces welated	d seep conditions.
VEGETATION - Use scientific names of plants.	
	solute Dominant Indicator Dominance Test worksheet:
1. Servossipa Mazisii	Cover Species? Status Number of Dominant Species 3
2. Salix osisperis	THAT ARE OBL, FACW, DI FAC.
2. Source Towner (1)	Total Number of Dominant 5
3	Species Across All Strata: (B)
56+ 50	= Total Cover 235 Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)
Sapling/Shrub Stratum (Plot size: 547)	Prevalence Index worksheet:
1. Genista Monspessulana 1	Total % Cover of:Multiply by:
2. Cytour sceparius 5 3. Rubur armyracus 8	OBL species x1 =
3. Know or wowners	FACW species x 2 =
4,	FAC species x 3 =
	FACU species x 4 =
Herb Stratum (Plot size: 54	UPL species x 5 =
1. Wasdwordin finsbridg 70	0 FACW Column Totals: (A) (B)
2. Equiserum averse 3	Prevalence Index = B/A =
3. Blystichum Murtun 9	Hydrophytic Vegetation Indicators:
4 Contadina phota 10	1 - Rapid Test for Hydrophytic Vegetation
5. Juncus ettusus 1	HACW Z - Dominance Test is >50%
6	3 - Prevalence Index is ≤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)
1197	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:	3 = Total Cover 46.5 18.6 be present, unless disturbed or problematic.
1	Hydrophytic
2	Vegetation
7 * nchygrevel.	= Total Cover Present? Yes No
% Bare Ground in Herb Stratum	
Herbaceaus vegetation amporition rotri	icted to isolated scep wetland.
	9
Shub layer retlects readside con	WITHS.

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Western Mountains, Valleys, and Coast -- Version 2.0

Depth Matrix		the absence of indicators.)
(inches) Color (moist) %	<u>Redox Features</u> Color (moist) % Type ¹ Loc ²	Texture Remarks
0-1 10YR 2/1 100		Bat Dat
		Ed JAT
1-4 10y R2/1 100		<u></u>
4-18 10YR 4/1 84	IOYR 4/6 C M	Sil
	7.54R5/8 10 C M/PL	increases w/ debth
18+19+ 10YR4/1 100	///	C mars of opposite
Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covered or Coated Sand Gr	ains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	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) Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
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.
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soll Present? Yes X No
IYDROLOGY Wetland Hydrology Indicators:		
Primary Indicators (minimum of one require	d; 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)	4A, and 4B)
	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Water Marks (B1) Sediment Deposits (B2)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo 	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Saturation Visible On Aerial Imagery (C3) Saturation Visible On Aerial Imagery (C3)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4)	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C4) ts (C3) 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)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A)	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (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 (B	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) 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) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (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 (B Sparsely Vegetated Concave Surface (Field Observations:	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8)	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (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 (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
 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 (B 	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No Depth (inches):	 Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (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 (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No Depth (inches):	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C4 Geomorphic Position (D2) Shallow Aquitard (D3) 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 (B Sparsely Vegetated Concave Surface I Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Remarks:	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (inches): No Depth (inches): Wetla onitoring well, aerial photos, previous inspections), in	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Saturation Visible on Aerial Imagery (C3 Saturation Visible on Aerial Imagery (C3 Saturation (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:
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 of Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Cincludes capillary fringe) Describe Recorded Data (stream gauge, m Remarks:	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6 Stunted or Stressed Plants (D1) (LRR A) TO Other (Explain in Remarks) (B8) No Depth (inches): M/A Depth (inches): Wetla	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Saturation (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) and Hydrology Present? Yes No if available:

discussion N



Consulting Engineers WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

z Geologists, Inc.				Flalas
Project/Site: Garberville	City/C	County: Humboldt		Sampling Date: 5/9/23
Applicant/Owner: Garberville Sanitary District			State: CA	Sampling Point: 1920
Investigator(s): Joseph Saler, Cindy Wilcox	Secti	on, Township, Rar	nge:	
Landform (hillslope, terrace, etc.): Hils - A0, roadcut		relief (concave, o	convex, none): <u>Nove</u>	Slope (%): 38
Subregion (LRR): A, MLRA-4B	Lat: 40.00	1540 p	Long: -12.3.794	579° Datum: WGS 84
Soil Map Unit Name: 461- Tannin - Burgs blo	CK-Pockual	en complex	30-50 KNWI classific	ation: None
Are climatic / hydrologic conditions on the site typical for th				
Are Vegetation, Soil, or Hydrology			(If no, explain in R	
				present? Yes X No
Are Vegetation, Soil, or Hydrology,			eded, explain any answe	1.2
SUMMARY OF FINDINGS – Attach site map		ipling point ic	Deations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N	1	is the Sampled	Area	\mathbf{V}
Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N		within a Wetlan		No
Description 1			11	110-40-10
TP excavated on step readout hills lo	pe justant:	side at reg	p welland new	rded@TP19.
VEGETATION – Use scientific names of plar	nts.			
300		ninant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 30 ft)	% Cover Spe		Number of Dominant S	
1. <u>Bruddsinge Menziesii</u>	80	HACY -	That Are OBL, FACW,	or FAC: (A)
3	· ·		Total Number of Domin	, , ,
4			Species Across All Stra	ta: (B)
Sapling/Shrub Stratum (Plot size: 54	80 = To	tal Cover	Percent of Dominant Sp That Are OBL, FACW,	pecies 20% (A/B)
1. Heteroweles Obvitoia	6 1	NL	Prevalence Index wor	
2. Rubus acmeracus	10 1	- CAC	Total % Cover of:	Multiply by:
3. Unbellularia californica	- 10 - 1	EN	OBL species	x 1 =
4			FACW species	x 2 =
5.			FAC species	x 3 =
C ()	17 = To	tal Cover 35	FACU species	x 4 =
Herb Stratum (Plot size: 544)	-	3.4		x5=
1. Boza maxima		NL	Column Totals:	(A) (B)
2. Browner diandrus	10 1	NL	Prevalence index	= B/A =
3. Janilis arvensis		NL	Hydrophytic Vegetation	
4. testuca myuras	- <u> </u>	<u>tAcu</u>	1 - Rapid Test for H	hydrophytic Vegetation
5			2 - Dominance Tes	t is >50%
6			3 - Prevalence Inde	ex is ≤3.0 ¹
7 8				daptations ¹ (Provide supporting s or on a separate sheet)
9			5 - Wetland Non-Va	·
10				phytic Vegetation ¹ (Explain)
11.				and wetland hydrology must
	9 = Tot	al Cover	be present, unless distu	urbed or problematic.
Woody Vine Stratum (Plot size:)		3.1	17.	
1			Hydrophytic	5
2			Vegetation Propert2	s No X
% Bare Ground in Herb Stratum	= Tot	al Cover	Present? Ye	s NO <u>/</u>
Remarks:	(1 1	11	Lui la l	tela (1)
Roctrand duff. Veg and tim re	the st	rep, well d	vaned loader	v_ lope, torested.

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		TO 2 Consulting En	
SOIL		Sampling Point: IF 20 & Geologists	
Profile Description: (Describe to the depth needed to doc	ument the Indicator or confirm	the absence of indicators.)	
	lox Features		
(inches) Color (moist) % Color (moist)	Type' Loc'	Texture Remarks	
0-1 54R2.5/2 100		0.m. duff-needles	
1-2 104R 2/2 100		L (
2-18+ 104R 412 >99 104R 4/6	>1 C PL	GbgrSL Redax on ped takes	
		News on free town	
	· · · · · · · · · · · · · · · · · · ·		
Turner Co-Constantion DoDentalizer DM Deduced Matter		2. 2	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, Hydric Soil Indicators: (Applicable to all LRRs, unless oth		ains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :	
		-	
Histosol (A1) Sandy Redox Histic Epipedon (A2) Stripped Mate		2 cm Muck (A10) Red Parent Material (TF2)	
	Mineral (F1) (except MLRA 1)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)	
Hydrogen Sulfide (A4) Loamy Gleve		Other (Explain in Remarks)	
Depleted Below Dark Surface (A11) Depleted Mat	· · /		
Thick Dark Surface (A12)	• •	³ Indicators of hydrophytic vegetation and	
Sandy Mucky Mineral (S1) Depleted Dar	k Surface (F7)	wetland hydrology must be present,	
Sandy Gleyed Matrix (S4) Redox Depre	ssions (F8)	unless disturbed or problematic.	
Restrictive Layer (if present):			
Туре:			
Depth (inches):		Hydric Soil Present? Yes No _X	
Gravelly, few roots. Roadcut hills	loft. above TP19.		
HYDROLOGY			
Wetland Hydrology Indicators:			
Primary indicators (minimum of one required; check all that an	ply)	Secondary Indicators (2 or more required)	
	tained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,	
	A 1, 2, 4A, and 4B)	4A, and 4B)	
	st (B11)	Drainage Patterns (B10)	
	Invertebrates (B13)	Dry-Season Water Table (C2)	
	n Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)	
	Rhizospheres along Living Roo		
	e of Reduced Iron (C4)	Shallow Aquitard (D3)	
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)			
	or Stressed Plants (D1) (LRR A)		
	xplain in Remarks)	Frost-Heave Hummocks (D7)	
Sparsely Vegetated Concave Surface (B8) Field Observations:			
Surface Water Present? Yes No X Depth			
Water Table Present? Yes No X Depth			
Saturation Present? Yes No X Depth (includes capillary fringe)	incnes): Wetla	and Hydrology Present? Yes No 🔼	
Describe Recorded Data (stream gauge, monitoring well, aeria	I photos, previous inspections), i	if available:	
Remarks: Dry, well drained stope Repre	setative of roade	vt Willstope.	



Consulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region.

& Geologists, Inc.	5/2/20
Project/Site: Garberville City/County: Hu	
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Point:
	hip, Range:
Landform (hillslope, terrace, etc.): hillslope, base Local relief (cor	ncave, convex, none): (avave Slope (%): 2-6
Subregion (LRR): A, MLRA-4B Lat: 40.09679 4	Long: -123. 1946 79 Datum: WGS 84
Soil Map Unit Name: 311: Ur ban land - Garbenuile complex 5	5-15% Slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology significantly distributed and the second secon	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling p	
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes X No Is the Sa	ampled Area
	Wetland? Yes No
Remarks: TP excavated in law point at bare of hillslope	labor blocked al antal
	- between Trailer form and Motel.
Slight dyrossian captures water from Shipe.	
VEGETATION – Use scientific names of plants.	
Tree, Stratum (Plot size: 30 ff) Absolute Dominant Ind % Cover Species? St	
1. Platon X his parica	The Number of Dominant Species 3
2	That Are OBL, FACW, or FAC: (A)
3.	Total Number of Dominant Species Across All Strata: (B)
4	
TL	Percent of Dominant Species 75% (A/B)
Sapling/Shrub Stratum (Plot size: 547)	Prevalence Index worksheet:
1. <u>Rubur armailocus</u> 40 11 2. Quercus hellosopii 2	Total % Cover of: Multiply by:
3. Rubur win w J	OBL species x 1 =
	FACW species x 2 =
5	FAC species x 3 =
Hach Stratum (Blat airs) 5ft 47 = Total Cover	23.5 FACU species x 4 =
Hero Stratum (Pigesize.	'9.4 UPL species x 5 =
1. Corex hartordii 20 L OR	Column Totals: (A) (B)
2. festuca orundinacea 48 1 f	Prevalence Index = B/A =
	AC Hydrophytic Vegetation Indicators:
5. Appartus praecox 7 N	1 - Rapid Test for Hydrophytic Vegetation
6. 4	
7	3 - Prevalence Index is ≤3.0 ¹
8	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
89 = Total Cover	be present, unless disturbed or problematic.
Woody Vine Stralum (Plot size:)	17.0
	Hydrophytic Vegetation
	Present? Yes X No
% Bare Ground in Herb Stratum	
Veg composition reflects wetland within Vac	last bot between development.
Left litter overbane grand.	

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SOIL								Sampling Point: W Z
Profile Des	cription: (Describe	to the dep	oth needed to docu	ment the	indicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	100	Color (moist)	%	_Type ¹ _	_Loc ²	Texture	Remarks
1-1	101010		121/0 11/1	TO			to	
1-18	104K 4/2	85	10YR 4/6	10	6	_M	SiCL	Redex increases w/ dept
			7.5 YR 4/4	5	C	M	-	
			90 1					
			-	•				
			-					
								
		·						
	oncentration, D=Dep					d Sand Gr	ains. ² Loc	ation: PL=Pore Lining, M=Matrix.
	Indicators: (Applic	able to all	LRRs, unless othe	rwise not	ed.)		Indicato	rs for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (n Muck (A10)
	pipedon (A2)		Stripped Matrix	• •				Parent Material (TF2)
	istic (A3) en Sulfide (A4)		Loamy Mucky I Loamy Gleyed	•		MLRA 1)		/ Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	X Depleted Matrix)			er (Explain in Remarks)
	ark Surface (A12)	- ()	Redox Dark Su				³ Indicato	rs of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Depleted Dark	• • •	7)			nd hydrology must be present,
	eved Matrix (S4)		Redox Depress	sions (F8)				s disturbed or problematic.
Restrictive	Layer (if present):							
Type:		_						
Depth (in	ches):						Hydric Soll	Present? Yes 👗 No
Remarks:	red, well for	1 .	1 1 0	1	121	rsista	1 1	
HYDROLO	GY							
Wetland Hy	drology Indicators:							
Primary India	ators (minimum of o	ne required	d; check all that appl	Y)			Secor	ndary Indicators (2 or more required)
🖌 Surface	Water (A1)		Water-Sta	ined Leave	es (B9) (e:	xcept		/ater-Stained Leaves (B9) (MLRA 1, 2,
X High Wa	ter Table (A2)		MLRA	1, 2, 4A, a	ind 4B)			4A, and 4B)
X Saturatio	on (A3)		Salt Crust	(B11)			D	rainage Patterns (B10)
	arks (B1)		Aquatic In	vertebrate	s (B13)		D	ry-Season Water Table (C2)
Sedimer	nt Deposits (B2)		Hydrogen	Sulfide Od	lor (C1)			aturation Visible on Aerial Imagery (C9)
	oosits (B3)		Oxidized F	Rhizosphe	res along l	Living Roo	ots (C3) 🔀 G	eomorphic Position (D2)
	it or Crust (B4)		Presence	of Reduce	d Iron (C4)	S	hallow Aquitard (D3)
	osits (B5)		Recent iro				·	AC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or			1) (LRR A))R	aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial I			olain in Re	marks)		Fi	rost-Heave Hummocks (D7)
	Vegetated Concave	e Surface (I	B8)					
Field Observ		×).25in			
Surface Wate			No Depth (in		J. LJIN	-		
Water Table		T	No Depth (in		2/2	-		$\mathbf{\vee}$
Saturation Pr (includes cap		es 👗	No Depth (in	ches): 🔔	urta ce	_ Wetla	and Hydrology	Present? Yes <u></u> No
	corded Data (stream	gauge, mo	onitoring well, aerial	photos, pre	evious ins	pections).	if available:	
						-,1		
Remarks:					0		1	1
drait	10 con Alte	on the	n contines	-AL	tra	andi	11/2 00	. Wetlands grade
Jugh	deswarker	VUSITI	in white	VIV	Ilor	nac	MOlope	, victorios diano
r k	Mand N. A.	Ju J	on captures	•		J		v
IV IO A	Into In has		unea evy					
		8						

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TP 21 mention ngmee as, hue

Consulting Engineers & Geologists, Inc. WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Garberville	City/County: Humboldt	Sampling Date: 5/9/23
Applicant/Owner: Garberville Sanitary District		State: CA Sampling Point: TP 22
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Ra	
Landform (hillslope, terrace, etc.): Hat Lat	Local relief (concave,	convex, none): Nove, Slope (%): 0-2
Subregion (LRR): A, MLRA-4B	Lat: 40.096878	Long: -12.3. 19 47 60 Datum: WGS 84
Soil Map Unit Name: 311: Urbanland - Gor	benille complex 5.	19% NWI classification: None
Are climatic / hydrologic conditions on the site typical for th		
Are Vegetation, Soil, or Hydrology		
Are Vegetation, Soil, or Hydrology		eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map		
Hydrophytic Vegetation Present? Yes N	4o <u>×</u>	
Hydric Soil Present? Yes N		
Wetland Hydrology Present? Yes N		
Remarks: TP excavated in vacant lat Graded lot.	downshope of wetland	d recorded at tP 21.
VEGETATION – Use scientific names of plan	nts.	
Tree Stratum (Plot size; 30-F4)	Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet:
	60 V NL	Number of Dominant Species (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4	= Total Cover	Percent of Dominant Species 25% (A/B)
Sapling/Shrub Stratum (Plot size) 544)	1 NL	Prevalence Index worksheet:
1. Annus cerositora		Total % Cover of: Multiply by:
2		OBL species x 1 =
4		FACW species x 2 =
5		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)	43 V NL	UPL species x 5 =
2. Festinca annoinacea	20 1 500	Column Totals: (A) (B)
3. Poa trivialis	2 540	Prevalence Index = B/A =
4. Holew Janatw	2 FAC	Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
6		3 - Prevalence Index is $\leq 3.0^{\circ}$
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) ¹ Indicators of hydric soll and wetland hydrology must
11.	77 = Total Cover 365	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1		Hydrophytic
2		Vegetation Present? Yes No
% Bare Ground in Herb Stratum 23	Total Cover	
Remarks: Vegetation composition reflects slight	V Storing in to reton	ed lationula à crass havell
Iched lock till alund the	A which all and a	we in the prove of the provest and
OWACU. LEW ITTE UDUNDAN		

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

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	STUT
SOIL	Sampling Point: TP 22 Geologists, Inc.
Profile Description: (Describe to the depth needed to document the indicator or c	
Depth Matrix Redox Features	
(inches) Color (moist) % Color (moist) % Type' L	oc ² Texture Remarks
0-3 10YR 3/2 100	- SiL
3-12 10483/2 (0 / 1 /	SiL Mixed matrices til
10yr 5/4 8	
	pockets at till
	pockets at till
<u>/ 1.59 5/3 30 / / / /</u>	pocheds of till
13-18+ 2.545/3 70 104R5/6 5 C	M CL Mixed till
10YK 514 25 C	1
	"— —— —
· · · · · · · · · · · · · · · · · · ·	··· ··· ··· ··· ··· ··· ··· ··· ··· ··
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated S	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	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 ML Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11) 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)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):	
Туре:	N
Depth (inches):	Hydric Soll Present? Yes No
Remarks:	
Nixed fillsoils in Vacant lat. 3-13" human ~1 pockets of unixed fill from low	Possible krotovina or grapping of terrace.
HYDROLOGY	thetland
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1) Water-Stained Leaves (B9) (exce	
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 Livi	
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (
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 X Depth (inches):	
Water Table Present? Yes No X Depth (inches): NA	5.7
Saturation Present? Yes No Depth (inches): NA	Wetland Hydrology Present? Yes No X
(includes capillary fringe)	Wettand Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	tions), if available:
Remarks:	
well drained soils, downslope at wetland condition	ms of TP21. Waland Conditions
prost, no evidence of wetland hydrology.	

Sin Engineers

Consulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

& Geologists, Inc.			Stalaz
	City/County: Humboldt		Sampling Date: 519123
Applicant/Owner: Garberville Sanitary District	No	State: CA	Sampling Point: <u>123</u>
	Section, Township, Ran		
Landform (hillslope, terrace, etc.): Hills he make	Local relief (concave, c	onvex, none): Con Co	IVE Slope (%): 22
Subregion (LRR); A, MLRA-4B	Lat: 40.09(33'	Long - 123, 79'	967° Datum: WGS 84
Soil Map Unit Name: 461: Tannin Burgs block - Re	rekualen 30-50 %.	Slopes NW/ classific	nation: None
Are climatic / hydrologic conditions on the site typical for this ti		(If no, explain in R	
Are Vegetation, Soil, or Hydrology sign			
		Normal Circumstances"	1
Are Vegetation, Soil, or Hydrology nat SUMMARY OF FINDINGS - Attach site map sh		eded, explain any answe	
			,
	ls the Sampled	Area 🔪	/
Wetland Hydrology Present? Yes X No	within a Wotlan	d? Yes 🗡	No
Remarks:) halled call	contrated 1	- 10 1 H
TP excavated in hillside sep wetten	a. Metano Carvittar	s ioniched to	swale bottom,
Liscated, sepp ted.			
VEGETATION – Use scientific names of plants	i.		
2/1	Absolute Dominant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 30)	% Cover Species? Status	Number of Dominant S	pecies 4
	6 FACW	That Are OBL, FACW,	or FAC: (A)
2. Ottertree species		Total Number of Domir	nant 🗲
3. footed anside welland. Not 4. apprend in domin ance.		Species Across All Stra	ata: (B)
	Tatal Cause	Percent of Dominant S	pecies 80%
Sapling/Shrub Stratum (Plot size: 541)	= Total Cover	Thal Are OBL, FACW,	or FAC: (A/B)
1. FUBUS amongicus	35 FAC	Prevalence Index wor	
2. Carrie Corneta	5 FACY	Total % Cover of:	
3			x 1 =
4			x 2 =
5			x 3 = x 4 =
Herb Stratum (Plot size: 5F4)	= Total Cover 👙		×4 ×5 =
1. Woodwardra, flanbriota	20 L FACIN	· · · · · · · · · · · · · · · · · · ·	(A) (B)
2 Frithatle gattata	1 061		
3. Carex hartstdij	13 0BL		: = B/A =
	30 FAC	Hydrophytic Vegetation 1 - Rapid Test for I	
5. Juncus effusus sp. pacificus	2 FACW	2 - Dominance Tes	
6		3 - Prevalence Inde	
7			Adaptations ¹ (Provide supporting
8		data in Remark	s or on a separate sheet)
9		5 - Wetland Non-V	
10			phytic Vegetation ¹ (Explain)
11		¹ Indicators of hydric so	I and wetland hydrology must
Woody Vine Stratum (Plot size: 561	66 = Total Cover -32.2	be present, unless dist	urbed or problematic.
1. Herera helix	6 FACY		
2.	J V THUM	Hydrophytic Vegetation	V
011	= Total Cover	Present? Ye	s 🔼 No
% Bare Ground in Herb Stratum			
Remarks:		Inother	
Vegetation composition restricted s	small Wilshope segr	wetland.	
	· · ·		

SOIL	Sampling Point: 123
	he depth needed to document the indicator or confirm the absence of indicators.)
Depth <u>Matrix</u> (inches) Color (moist)	Redox Features Color (moist) % Type1 Loc2 Texture Remarks
	NO My
1 1 2 2 2 11 0	
	7 10YR 4/6 3 C PL BrSL along living roots
4-18+ 101 5/1 9	<u> 77K 4/6 O C MIPL CL J J J</u>
	on, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
	e to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls ³ :
Histosol (A1) Histic Epipedon (A2)	Sandy Redox (S5) 2 cm Muck (A10) Stripped Matrix (S6) Red Parent Material (TF2)
Black Histic (A3)	Ked Farent Mathar (1F2) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	K Loamy Gleyed Matrix (F2) Other (Explain in Remarks)
X Depleted Below Dark Surface (A	
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:	
IYDROLOGY	
Wetland Hydrology Indicators:	required: check all that apply) Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one	
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1)	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) X Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) 4A, and 4B) Salt Crust (B11) X Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) X Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one X Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one 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)	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) AA, and 4B) 4A, and 4B) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Shallow Aquitard (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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)	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) X Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) X FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Gerry (B7) Other (Explain in Remarks) Frost-Heave Hurmocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave St Field Observations:	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) X Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Shallow Aquitard (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave St Field Observations:	Water-Stained Leaves (B9) (except ✓ Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) 4A, and 4B) 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) ✓ Saturation Visible on Aerial Imagery (C Oxidized Rhizospheres along Living Roots (C3) ✓ Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-Neutral Test (D5) Other (Explain in Remarks) Frost-Heave Hummocks (D7) No Depth (inches): 0.25
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave Si Field Observations: Surface Water Present?	Water-Stained Leaves (B9) (except ✓ Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) ✓ 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) MOLTING Oxidized Rhizospheres along Living Roots (C3) ✓ MRecent Iron Reduction in Tilled Soils (C6) ✓ Shallow Aquitard (D3) Mercer (Explain in Remarks) ✓ Frost-Heave Hummocks (D7) No Depth (inches): 0.25 No Depth (inches): 0.25
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave Si Field Observations: Surface Water Present? Yes Water Table Present? Yes	Water-Stained Leaves (B9) (except ✓ Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) ✓ 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) MODEDITIESTIC Conducted Research Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Shallow Aquitard (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) NorDepth (inches):
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave So Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Xulter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Modized Rhizospheres along Living Roots (C3) Xulter Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Soils (C6) Xulter Ac-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) NoDepth (inches):
 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 Ima Sparsely Vegetated Concave Si Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes 	Water-Stained Leaves (B9) (except ✓ Water-Stained Leaves (B9) (MLRA 1, 2 MLRA 1, 2, 4A, and 4B) ✓ 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) MOLTING Oxidized Rhizospheres along Living Roots (C3) ✓ MRecent Iron Reduction in Tilled Soils (C6) ✓ Shallow Aquitard (D3) Mercer (Explain in Remarks) ✓ Frost-Heave Hummocks (D7) No Depth (inches): 0.25 No Depth (inches): 0.25
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave Si Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes	
Wetland Hydrology Indicators: Primary Indicators (minimum of one ✓ Surface Water (A1) ✓ High Water Table (A2) Saturation (A3) Water Marks (B1)	
Wetland Hydrology Indicators: Primary Indicators (minimum of one X 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 Ima Sparsely Vegetated Concave Si Field Observations: Surface Water Present? Yes Saturation Present? Yes Mater Table Recorded Data (stream ga Remarks:	Water-Stained Leaves (B9) (except X Water-Stained Leaves (B9) (MLRA 1, 2 MRA 1, 2, 4A, and 4B) A, and 4B) 4A, and 4B) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Aquatic Invertebrates (B13) Sturation Visible on Aerial Imagery (C Aquatic Invertebrates (B13) Sturation Visible on Aerial Imagery (C Aquatical Invertebrates (B13) Sturation Visible on Aerial Imagery (C Aquatical Invertebrates (B13) Sturation Visible on Aerial Imagery (C Aquatical Invertebrates (B13) Sturation Visible on Aerial Imagery (C Aquatical Invertebrates (B13) Sturation Visible on Aerial Imagery (C Advatice Invertebrates Invertebrates (B13) Sturation Visible on Aerial Imagery (C
Wetland Hydrology Indicators: Primary Indicators (minimum of one ✓ Surface Water (A1) ✓ High Water Table (A2) Saturation (A3) Water Marks (B1)	

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oject/Site: Garberville	City/County: Humbold	t	_ Sampling Date: 5/9/2
plicant/Owner: Garberville Sanitary District			Sampling Point: TP 2.4
vestigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Ra	ange:	
ndform (hillslope, terrace, etc.): Hillslope	Local relief (concave,	convex. none); Nore	Slope (%): 2
	Lat: 40, 096157°		
il Map Unit Name: 461: Tannin - Burgsblock	- Reckyalen complexe 3	0-50910 NIMI classif	cation: None
e climatic / hydrologic conditions on the sile typical for th	is time of wars? Yes X	(If an eveloping	Demodel)
e Vegetation, Soil, or Hydrology		"Normal Circumstances"	
e Vegetation, Soil, or Hydrology			
		eeded, explain any answ	,
UMMARY OF FINDINGS – Attach site map	showing sampling point	locations, transect	s, important features,
	No X		s 1
lydric Soil Present? Yes I			No
Vetland Hydrology Present? Yes I		1	1
remarks: TP excavated in vpland, ve	drained slope just	outside of WIS	ide sep with)
anditions representative of upland, w			
EGETATION – Use scientific names of plan			
<u> </u>	Absolute Dominant Indicator	Dominance Test wor	kabaati
ree Stratum (Plot size: 30(+))	% Cover Species? Status	Number of Dominant S	-
umberluidia, californica	12 FAC	That Are OBL, FACW,	
Quercus helloggii	10 V NL	Total Number of Domi	
JJ		Species Across All Str	
*		Percent of Dominant S	
agling/Shrub Stratum (Plot size:)	12 = Total Cover	That Are OBL, FACW,	
Rubus orneracus	27 1 FAC	Prevalence Index wo	rksheet:
Gausta monsperoulana	5 V NL	Total % Cover of:	Multiply by:
Ascuditoria prenziesii	5 FACU	OBL species	x1=
Rubus porvitions	1 FACU		x 2 =
			x 3 =
	48 = Total Cover 24		x 4 =
lerb Stratum (Plot size:)	9.6		x 5 =
Phalaris almotica	16 L FACY	Column Totals:	(A)
Palystichum V muitum	FACIL	Prevalence inde	x = B/A =
Polagranna triangularis	- The ML	Hydrophytic Vegetat	
Pteridium aquilinum va. pubescens	24 PACU	1 - Rapid Test for	Hydrophytic Vegetation
		2 - Dominance Te	est is >50%
		3 - Prevalence Inc	lex is ≤ 3.0 ¹
		4 - Morphological	Adaptations ¹ (Provide suppo
		5 C	ks or on a separate sheet)
	- C 22 C	5 - Wetland Non-V	
0		· · · · · · · · · · · · · · · · · · ·	ophytic Vegetation ¹ (Explain) bil and wetland hydrology mu
1	() - Tatal Carro 39	be present, unless dis	
(Plot size: 544)	60_= Total Cover		
Hedera helix	3 FACU	Hydrophytic	
		and a second s	X
Bare Ground in Herb Stratum 40%	3= Total Cover	Present? Y	es No X
emarks: Well croined yoland slope,	Stavs species and A	indian anul	inum dominiant

SOIL	Sampling Point: TP 24 Geologists, I
Profile Description: (Describe to the depth needed to document the indicate	tor or confirm the absence of indicators.)
Depth Matrix Redox Features	
(inches) Color (moist) % Color (moist) % Typ	e Loc Texture Remarks
0-9 10YR 3/2 100	Jih
9-13 7.5 /2>/4 60 2.5 /3 5 D	M CL Wall, gratel,
10483/2 20	Mixed motive crotoving +
10YR3/4 15	
	natural nixing.
13-17+ 10YR5/3 60	/ CL Maryon Marting
7.5YK4/6 40	INVIED INTAILIED
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Co	bated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ¹ :
Histosol (A1) Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2) Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3) Loarny Mucky Mineral (F1) (exc	ept MLRA 1) Very Shallow Dark Surface (TF12)
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) Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (If present):	
Туре:	
Depth (inches):	Hydric Soil Present? Yes No X
Pomerke:	
Remarks. Lillet 10 with public letter D to che	24.0
Hillstope with Mixed Soils. Part slope	NON-WRY (

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; 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,
Left 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 Root	is (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)
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 X Depth (inches): NA	
Water Table Present? Yes No X Depth (inches):	V
Saturation Present? Yes No X Depth (inches); W/A Wetla	and Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), i	f available:
Remarks Well drained Willslope.	

SALVY



Onsulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region & Geologists, Inc.

Project/Site: Garberville	_ City/County: Humboldt Sampling Date: 5/10/23
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Date:
Investigator(s): Joseph Saler, Cindy Wilcox	Section, Township, Range: Gamping Form
Landform (hillslope, terrace, etc.): Hillslope, 5 vale	Local relief (concave, convex, none) (an (AVE, Slope (%) 7%)
Subregion (LRR): A, MLRA-4B	10.105117 Long: ~123.789439 Datum: WGS 84
Soil Map Unit Name: 462: Burgsblock-Cool york-Tan	nun complex 30 - 50% NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of ye	year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pr	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soll Present? Yes No Wetland Hydrology Present? Yes No Remarks: TP excuvated IN Sevele at base	Is the Sampled Area within a Wetland? Yes <u>No</u> <u>No</u>

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:) 1	Absolute % Cover	Dominant Species?		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2 3 4				Total Number of Dominant Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size: 54+	10	= Total Co		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet:
1. Rubus armaniacus 2.	40	~	FAC	Total % Cover of:Multiply by:
3				OBL species x 1 =
4				FACW species x 2 =
5				FAC species x 3 =
	40	= Total Co		FACU species x 4 =
Herb Stratum (Plot size: 571)		- Total OU	401	UPL species x 5 =
1. Larex hartornin	14	~	OBL	Column Totals: (A) (B)
2. Metha presilm	7		OBL	Prevalence Index = B/A =
3. Rymet chisputs	4		FAC	Hydrophytic Vegetation Indicators:
4. Lythrun hyssopitaia	2		OBL	1 - Rapid Test for Hydrophytic Vegetation
5. SCICPUS MicroLyrpus	4		OBL	2 - Dominance Test is >50%
6. Grarts prograstis	5		FACW	3 - Prevalence Index is $\leq 3.0^{1}$
7. Brita Maxima	1		NL	4 - Morphological Adaptations ¹ (Provide supporting
8. Juncus poter	5		PACW	data in Remarks or on a separate sheet)
9. JIMOW AFAISUS 250. PACIFICUS	1		FACW	5 - Wetland Non-Vascular Plants ¹
10. Poatoviquis	12	V	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
11	TE			¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	55	= Total Cov	er 27.3	be present, unless disturbed or problematic.
1			1.21	
2				Hydrophytic Vegetation
		= Total Cov		Vegetation Present? Yes No
% Bare Ground in Herb Stratum		Total COV	-	
Remarks	M		0	
Bare mud and thatch in harb stration.	Veg. c	onpetitre	retter	ts Swale conditions.

Profile Description: (Description to depth needed to document the indicator or confirm the absence of indicators.) Depth (incluse) Color (model) X Traduce Remarks 2.5 V 4/2 89 7.5 VR 4/6 Color (model) Si CL 3 - 11 2.5 V 4/2 89 7.5 VR 4/6 Color (model) Si CL 1 - 18 + 5 V 5/2 60 DVR 4/ 4 8 C PL/M Si CL 1 - 18 + 5 V 5/2 60 DVR 5/6 40 C M SL Si CL 1 - 18 + 5 V 5/2 60 DVR 5/6 40 C M SL Si CL 1 - 18 + 5 V 5/2 60 DVR 5/6 40 C M SL Si CL 1 - 18 + 5 V 5/2 60 DVR 5/6 40 C M SL Si CL 1 - 18 + 5 V 5/2 8 Singlo filedon (72) Singlo filedon (72) Indicators (Aprice Color C	OIL								npling Point:	- A Geo
Intrinses Color (moist) % Twe Loc Tabuye Remarks INXR 3/2 0 -3 Twe Loc Tabuye Remarks INXR 3/2 0 -5 V/R 4/2 C FL/M Sicci II -184 0 -7 5 VR 4/2 G V/R - II -184 -184 -184 -184 -184 - - II -184 -184 -184 -184 - <t< th=""><th></th><th>to the de</th><th></th><th></th><th>dicator o</th><th>r confirm</th><th>the absence</th><th>of indicators</th><th>i.)</th><th></th></t<>		to the de			dicator o	r confirm	the absence	of indicators	i.)	
03 IVX 3/2 100 IVX 4/2		0/.		And a second	Tuno	1.002	Toxhuro		Pomarke	
3 = [] 2.5 Y 4/2 89 7.5 YR 4/2 3 C PL/M Si CL W/UCC. Grave IDYR 5/6 40 C M SL W/UCC. Grave Type: C=Concentration. D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains, "Location: PL=Pore Lining, M=Matrix, Undicators for Problematic Hydric Soils". Number 1000000000000000000000000000000000000		TAN			Type	LUC			Remarks	
Image: Carbon Status Image: Carbon Status <td< td=""><td>104K 1/2</td><td></td><td></td><td></td><td></td><td>01/14</td><td>LINDIT</td><td>13</td><td></td><td></td></td<>	104K 1/2					01/14	LINDIT	13		
Image:	3-11 2.54 4/2	89	7.5 YR 4/6	3	C	LIM	SICL			
Image: C=Concentration. D=Depletion, RM=Reduced Matrix, CS=Covered or Coaled Sand Grains. *Location: PL=Pore Lining, M=Matrix, Indicators for Problematic Hydric Solls": Image: C=Concentration. Stripped Matrix (SS)		/	10YR 4/4	8	0	PLIM	/			
yps: C-Concentration. D=Depletion. Rel=Reduced Matrix. CS=Covered or Coaled Sand Grains. ?Location: PL=Pore Lining, M=Matrix. yrdic Soil Indicators: Applicable to all LRRe, unless otherwise noted.) Indicators for Problematic Hydric Soils': Histoic (A1) Stripped Matrix (S5)	10+ 5V 5/2	GA	INVRELC	10	6	M	<1	whore	Acase.	- 7
rdfd: Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: In	11 11/1-	00	10/11/0/0	<u> </u>	<u> </u>	11	00	007000.	ginno	
rdfd: Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: In		-							V	
rdfd: Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: In										
rdrf Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils': - Histos Epidedon (A2) Stripped Matrix (S6) Red Parent Material (IT2) Biack Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Wethand Harrian (IT2) Depleted Balow Dark Surface (A11) Depleted Matrix (F2) "Indicators of hydrophylic vegetation and wetiand hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) "Indicators of hydrophylic vegetation and wetiand hydrology must be present, unless disturbed or problematic. Sardr Cleyed Matrix (S4) Redox Dark Surface (F7) unless disturbed or problematic. Surface Varier (If present): Type: Hydric Soil Present? Yes No_ Depleted Dark Surface (A12) Water-Stained Leaves (B9) (except Wetare-Stained Leaves (B9) (except High Water Table (A2) MLRA 1, 2, 4A, and 4B) Dariange Patterns (B10) Dariange Patterns (B10) Saturation (A3) Saturatic Invertebrates (B13) Dariange Patterns (B10) Saturation Vasible on Aerial Imagery (B7) Surface Soil Cracks (B5) Recent Iron Reduction in Tiled Soils (C6) Saturation (C1) Saturation Vasible on Aerial Imagery (B7) Other (Explain in Rema										
rdrf Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils': - Histos Epidedon (A2) Stripped Matrix (S6) Red Parent Material (IT2) Biack Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Wethand Harrian (IT2) Depleted Balow Dark Surface (A11) Depleted Matrix (F2) "Indicators of hydrophylic vegetation and wetiand hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) "Indicators of hydrophylic vegetation and wetiand hydrology must be present, unless disturbed or problematic. Sardr Cleyed Matrix (S4) Redox Dark Surface (F7) unless disturbed or problematic. Surface Varier (If present): Type: Hydric Soil Present? Yes No_ Depleted Dark Surface (A12) Water-Stained Leaves (B9) (except Wetare-Stained Leaves (B9) (except High Water Table (A2) MLRA 1, 2, 4A, and 4B) Dariange Patterns (B10) Dariange Patterns (B10) Saturation (A3) Saturatic Invertebrates (B13) Dariange Patterns (B10) Saturation Vasible on Aerial Imagery (B7) Surface Soil Cracks (B5) Recent Iron Reduction in Tiled Soils (C6) Saturation (C1) Saturation Vasible on Aerial Imagery (B7) Other (Explain in Rema										
dric Soil Indicators: (Applicable to all LRRe, unless otherwise noted.) Indicators: (Applicable to all LRRe, unless otherwise noted.) Indicators: (Applicable to all LRRe, unless otherwise noted.) Histosoi (A1)			-			0	2			
Histosol (A1)						Sand Gr				
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Hydrogen Sulfide (A4)					(excent l				· ·	
Depleted Below Dark Surface (A11) Pedeted Matrix (F3) Pedeted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy McWineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy McWineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy McWeral (S1) Pedeted Dark Surface (F7) Hydric Soil Present? Yes No Berght Micral (S1) water.Stained Leaves (F8) Hydric Soil Present? Yes No Well fumed Mydrology Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Sufface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, High Water Table (A2) MLRA 1, 2, 4A, and 4B) Drintage Patterns (B10) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (1 Dift Dep					(except)					
Thick Dark Surface (A12)		ce (A11)					0		r contanto,	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Oleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Type:							³ Indicat	ors of hydroph	ytic vegetation and	
strictive Layer (if present): Type:			Depleted Dark	Surface (F7	')					
Type:	Sandy Gleyed Matrix (S4)		Redox Depres	sions (F8)			unle	ss disturbed o	r problematic.	
Depth (inches):	estrictive Layer (if present):									
Imarks: Well farmed hydrocarib indicate persistal saturation. DROLOGY ettand Hydrology Indicators: imary indicators (minimum of one required; check all that apply) Surface Water (A1) - - Surface Water (A1) - - Surface Water (A1) - - High Water Table (A2) - MLRA 1, 2, 4A, and 4B) Saturation (A3) - Saturation (A3) - Saturation (A3) - Saturation (A3) - - Water Table (A2) - - Water Marks (B1) - - - - - - Water Table (B2) - - - - - - - - - - - - - - - - -	Туре:									
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TDROLOGY fetland Hydrology Indicators: imary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Sufface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Saturation (A3) Saturation (A3) Saturation (A3) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation (Visible on Aerial Imagery (I) Saturation (C4) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Shallow Aquitard (D3) Surface Soil Cracks (B6) Situnted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): MA Irdace Water Present? Yes No Depth (inches): Irdace Water Present? Yes No Depth (inches): Ma excertibe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: No Mo										
fettand Hydrology Indicators : Secondary Indicators : immary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 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 (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 Solis (C6) Shallow Aquitard (D3) 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) Depth (inches): MA Ield Observations: No Depth (inches): Ma Includes capillary fringe) No Depth (inches): Ma secorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a	Well formed hyd	nicail	s indicate	persista	at sa	ivatio	<u>^.</u>			
imary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) High Water Table (A2) MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Saturation (A3) Satt 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 (E 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) 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) Saturation Present? Yes No Depth (inches):: N/A Idd Observations: No Depth (inches):: Yes No No aturation Present? Yes No	well formed hyd	ricati	s indicate	persista	ist to	ivatia	<u>^.</u>			
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Saturation (A3)	Well formed hyd DROLOGY etland Hydrology Indicators imary Indicators (minimum of	1	ed; check all that app				Seco			
Water Marks (B1)	Well formed hyd DROLOGY etland Hydrology Indicators imary Indicators (minimum of Surface Water (A1)	1	ed; check all that aor Water-St	οlγ) ained Leaves	s (B9) (e x		Seco	Water-Stained	Leaves (B9) (MLR	
Sediment Deposits (B2)	Well formed hyd DROLOGY etland Hydrology Indicators mary Indicators (minimum of Surface Water (A1) High Water Table (A2)	1	ed, check all that aor Water-St MLRA	oly) ained Leave:	s (B9) (ex 1d 4B)		<u>Sec</u>	Water-Stained 4A, and 4E	Leaves (B9) (MLR/ I)	
Drift Deposits (B3)	Well formed hyd DROLOGY etland Hydrology Indicators mary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	1	ed: check all that aon Water-St MLRA Salt Crus	y ained Leave: \ 1, 2, 4A, a r t (B11)	s (B9) (ex nd 4B)		Sec.	Water-Stained 4A, and 4E Drainage Patte	Leaves (B9) (MLRA I) erns (B10)	
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Raised Ant Mounds (D6) (LRR A) Raised Ant Mounds (D6) (LRR A) Rounds (D7) Sparsely Vegetated Concave Surface (B8) ald Observations: rface Water Present? Yes No Depth (inches): <u>N/A</u> ater Table Present? Yes No Depth (inches): <u>10</u> turation Present? Yes No Depth (inches): <u>3ih</u> Wetland Hydrology Present? Yes X No No Rounds (D6) (LRR A) No No Rounds (D7)	Well formed by d DROLOGY etland Hydrology Indicators mary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	1	ed: check all that aon Water-St MLRA Salt Crus Aquatic In	bly) ained Leaves 1, 2, 4A, ar t (B11) nvertebrates	s (B9) (ex 1d 4B) (B13)		Sec.	Water-Stained 4A, and 4E Drainage Patte Dry-Season W	Leaves (B9) (MLR / I) erns (B10) /ater Table (C2)	A 1, 2,
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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) eld Observations: Inface Water Present? YesNoDepth (inches): Inter Table Present? YesNoDepth (inches): .turation Present? YesNoDepth (inches): .turation Present? YesNo Depth (inches): .turation Present? Yes	Well formed by d DROLOGY etland Hydrology Indicators imary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	1	ed: check all that aor Water-St MLRA Salt Crus Aquatic lu Hydroger Oxidized	ained Leave: 1, 2, 4A, ar t (B11) nvertebrates n Sulfide Odd Rhizosphere	s (B9) (ex n d 4B) (B13) or (C1) es along L	cept	<u>Secc</u> 	Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Visi Geomorphic P	Leaves (B9) (MLR / i) erns (B10) /ater Table (C2) ible on Aerial Image osition (D2)	A 1, 2,
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Consulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

		C/(p/02
Project/Site: Garberville	City/County: Humboldt	Sampling Date:5/10/23
Applicant/Owner: Garberville Sanitary District	State: CA	Sampling Point: TP 26
Investigator(s): Joseph Saler, Cindy Wilcox	_ Section, Township, Range:	
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none): No	e Slope (%): 15
Subregion (LRR): <u>A, MLRA-4B</u>	10 105 (6K° -123 Z	29 40 2° - WGS 84
	To de angente	Datum: WGG 84
Soil Map Unit Name: 452: Burys block - (00 lyork.		
Are climatic / hydrologic conditions on the site typical for this time of		
Are Vegetation, Soil, or Hydrology significa	lly disturbed? Are "Normal Circumstance	s" present? Yes 🗶 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any and	swers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	ng sampling point locations, transe	cts, important features, etc.
Hydrophytic Vegetation Present? Yes No X		N
Hydric Soil Present? Yes Xes No	Is the Sampled Area	X
Wetland Hydrology Present? Yes No		No <u> </u>
Remarks: TP excavated autside of wellowith	on dry Lilslope. Conv	littans reprovedative at
VEGETATION – Use scientific names of plants.		
Abso	te Dominant Indicator Dominance Test w	orkshoot.
	er <u>Species?</u> <u>Status</u> Number of Dominar	1
1	That Are OBL, FAC	
2	Total Number of De	
3	Total Number of Do	
4		
514	= Total Cover Percent of Dominar That Are OBL, FAC	
Sapling/Shrub Stratum (Plot size: 544)	Prevalence Index	
1. ILMONS WAINNS	Total % Cover	
2. Rubus ar meliacus 28		x 1 =
3		x 2 =
4		x 3 =
5		x 4 =
Hath Strahum (Blat size) 5 4	= I otal Cover or I	x 5 =
Herb Stratum (Plot size: 5.4.) 1. Briza MAMMa 50		(A) (B)
2 Latyrus latitolius 3		(A) (B)
K I C I C I I I I I I I I I I I I I I I	Prevalence In	dex = B/A =
and the second	Hydrophytic Vege	tation Indicators:
4. Avena borbata 1	1 - Rapid Test	for Hydrophytic Vegetation
5. Juncus patas 1 6. Runez acetisella 15	2 - Dominance	Test is >50%
and a second sec	3 - Prevalence	Index is ≤3.0 ¹
	4 - Morphologic	cal Adaptations ¹ (Provide supporting
8. Dathonia Californica 7		arks or on a separate sheet)
9. Carex haderedii 2		n-Vascular Plants'
10		drophytic Vegetation ¹ (Explain)
11 QC		soil and wetland hydrology must disturbed or problematic.
Woody Vine Stratum (Plot size:	= Total Cover 12.5 be present, unless	
1.		
2		V
ic l	= Total Cover	Yes No 🗶
% Bare Ground in Herb Stratum	<u> </u>	
Remarks: Thatch. Veg composition reflects of all. mothers.	well drained Willslope and t	nowition out

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Western Mountains, Valleys, and Coast - Version 2.0

Tome Description: (Describe)	Sampling Point: #24
Depth Matrix	Redox Features
(inches) Color (moist)	<u>% Color (moist) % Type! Loc2 Texture Remarks</u>
101K DIL	100
5-11 10YR 3/2	90 / / Sill chorcoal in forizon
1 54 5/2	7 Packet of Mixed Motrix
10YR 4/4	3 Pochet at mixed mornix
1-18 54 5/1	TO TOYR 4/4 30 C MIPL JCL
45 	
Type: C=Concentration, D=Depl	ation, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
	ble to all LRRs, unless otherwise noted.) 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) Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)
Contraction Sulfide (A4)	Loamy Gleyed Matrix (F2) Other (Explain in Remarks) (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)	Redox Depressions (F8) unless disturbed or problematic.
lestrictive Layer (if present):	
Туре:	
Depth (inches):	Hydric Soil Present? Yes 🗡 No
Evidence of histori	
Evidence of historia Knotowing or we	cal manipulation. Sciend horizon has pocheds at mixed material ework upsigne tailors. Transitional soils out of we thand
Evidence of histori Knotowina or voc Boundary YDROLOGY	
Evidence of histori Kno-townia or voc Downdary YDROLOGY Vetland Hydrology Indicators:	cal manipulation. Sciend horizon has pecheds it mixed materia. Awork upsigne tacles. Transitional soils out of we thand
Eviduce of histori Kootowina or vol Boundary YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of or	cal manipulation. Sciend horizon has pocheds it mixed materia ework upslape tailers. Transitional soils out of we thand e required; check all that apply). Secondary Indicators (2 or more required)
Eviduce of histori Kno-town a cr wat Down dawy YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of or Surface Water (A1)	cal manipulation. Sciend horizon hav pacheds it mixed materia work upslape tailles. Transitional soils out of wetland e required: check all that apply) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1,
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

t Geologists, Inc.		
Project/Site: Garberville	City/County: Humboldt	Sampling Date: 5/10/23
Applicant/Owner: Garberville Sanitary District		e: CA Sampling Point: TP 2.7
Investigator(s). Joseph Saler, Cindy Wilcox	Section, Township, Range:	
Landform (hillslope, terrace, etc.): Hilblope blach	Local relief (concave, convex, nor	ne): Slope (%):
Subregion (LRR): A, MLRA-4B	0.096 14h [•]	123794960 Datum WGS 84
Soil Map Unit Name: 311: Urban land - Garberville 5	-15010 slopes	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes <u>×</u> No (If n	o, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly		cumstances" present? Yes 🗶 No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, expl	ain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations	, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No		N T
Hydric Soil Present? Yes X No	is the Sampled Area within a Wetland?	
Wetland Hydrology Present? Yes X No		
Remarks TP excavated in hillside back with	Salix and Junour 2	lownance. Adj. to development.

VEGETATION - Use scientific names of plants.

Interestitutum (Plot size: 30 A Absolute Dominant Indicators 1. Salix Salis Salis Number of Dominant Species That Are OBL, FACW, or FAC: (A) 2. Salis Salis Salis Salis (A) 3. Salis Salis Salis Salis (A) 4. Salis Salis Salis (A) 4. Salis Salis (A) 5. Salis Salis (A) 6. Salis Salis (A) 7. Salis Salis (A) 8. Salis Salis (A) 9. Salis (A) (A) 1. Mark of Marka (A) (A) 1. Salis (A) (A) 2. (A) (A) (A) 3. (A) (A) (A) 4. Salis (A) (B) 2. (A) (B) (A) (B) 2. (A) (B) (A) (B) <	210-	Absolute	Dominant Indicator	Dominance Test workshee	et:
2. 3. Total Number of Dominant Species Across All Strata: (B) 3. 3. 90 = Total Cover Percent of Dominant Species Across All Strata: (B) 3. 15 15 160 (A/B) Prevalence Index worksheet: (A/B) 1. 15 15 160 (A/B) Prevalence Index worksheet: (A/B) 2. 15 15 160 (A/B) (A/B) (A/B) 3. 14 160 (A/B) (A/B) (A/B) (A/B) 3. 15 15 160 (A/B) (A/B) (A/B) 2. 15 15 160 (A/B) (A/B) (A/B) (A/B) 3. 14 15 15 160 (A/B)	Tree Stratum (Plot size: JU TI)		and the second s		, ,
3.				That Are OBL, FACVV, of FA	(C: (A)
4				Total Number of Dominant	5
Saping/Shrub Stratum (Plot size: Sft) SU = Total Cover That Are OBL, FACW, or FAC: SUX. (A/B) 1. Mark of Mithiae (M) 15 FAC Nulliply by: (A/B) 2. Or Mithiae (M) 35 Multiply by: OBL species x1 =	3			Species Across All Strata:	(B)
Saping/Shrub Stratum (Plot size: Sft) SU = Total Cover That Are OBL, FACW, or FAC: SUX. (A/B) 1. Mark of Mithiae (M) 15 FAC Nulliply by: (A/B) 2. Or Mithiae (M) 35 Multiply by: OBL species x1 =	4			Percent of Dominant Specie	
1. Workshacks 15 V HAC 2. Writes 35 VI Total % Cover of: Multiply by: 3. Overcus 0 orryana 1 FAC DBL species x 1 =	Santing/Shrub Stratum (Plot size: 5.4	30	_= Total Cover		
2 A 35 M 3 $Cuercus$ $Corveration a$ 1 A 4 A A A A 5 A A A A 4 A A A A 5 A A A A 1 A A A A 2 A A A A 3 A A A A 2 A A A A 3 A A A A 4 A A A A 5 A A A A 9 A A A A 10	1 Ruby (Compilerus)	15	V FAC	Prevalence Index workshe	et:
3. OBL species $x_1 =$ 4		35	NI	Total % Cover of:	Multiply by:
A. FACW species x2 = A. S. SI = Total Cover 257 FAC species x3 = FACW species x4 = A. FACW species x4 = PL species x4 = I. Diversity FACW FACW species x4 = I. Diversity FACW Prevalence index = B/A = Column Totals: (A) (B) I. Diversity FACW Prevalence index = B/A = Column Totals: (A) (B) I. Diversity FACW Prevalence index = B/A = Image: Column Totals: (A) (B) I. Image: Column Totals: Image: Column Totals: (A) Image: Column Totals: Image: Column Totals		1-	Cheu	OBL species	x 1 =
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2. Vince Major 20 FACU Prevalence Index = B/A =	1 Juneus nortens	75	FACW		
3.		20	FACIL		
4.	3		- 120		
5				Hydrophytic Vegetation In	dicators;
6					
7.	5			X 2 - Dominance Test is >	·50%
8				3 - Prevalence Index is	≤3.0 ¹
9					
10					, ,
1195 = Total Cover 415 Woody Vine Stratum (Plot size:95 = Total Cover 415 1					
Woody Vine Stratum (Plot size: 95 = Total Cover 475 1. Hydrophytic 2. Hydrophytic % Bare Ground in Herb Stratum 57. % Bare Ground in Herb Stratum 67. % Bare Ground in Herb Stratum 67. % Bare Ground in Herb Stratum 77. % Bare Ground in Herb Stratum 67. % Bare Ground in Herb Stratum 77. % Bare Ground in Herb Stratum 77. % Depresent Provide Ground Group 70. % Depresent 77. % Depresent 77. % Depresent 78. % Depresent 78. % Depresent 78. % Depresent 78. % Depresent					
1.	11,	00	1000	Indicators of hydric soil and	wetland hydrology must
1	Mandu Mine Chetum (Distaire)	45	= Total Cover	be present, unless disturbed	r or problematic.
2 Present? Yes X No % Bare Ground in Herb Stratum 5%. = Total Cover Present? Yes X No Remarks: Vegetation composition reflects mall bench weifland and Invarive/non-native species encoacting from adj. development.			13		
"Bare Ground in Herb Stratum <u>5</u> ". = Total Cover Present? Yes <u>No</u> Remarks: Vegetation composition reflects small bench we fland and Invasive/non-native species encoacting from adj. development.	1				
"Bare Ground in Herb Stratum _ 5% = rotal cover Remarks: Vegetation composition reflects small bench, we fland and Invasive/non-native species encoacting, from adj. development.	2			Vegetation	<
Vegetation composition reflects small bench wetland and Invarive/non-native species encloacting from adj. development.	51		= Total Cover	Present? Yes	No
Vegetation composition reflects small bench wetland and Invarive/non-native species encloacting from adj. development.	% Bare Ground in Herb Stratum		`		
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species encoacting from adj. development.	releasing composition torecto in	all per	ch welland	and invasive ho	N-VONINC
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JS Army Corps of Engineers Western Mountains, Valleys, and Coast – Version 2.0	US Army Corps of Engineers	1		Montorn Mountaine Mallar	and Occal Marcine 2.0

rofile Desc	ription: (Describe	to the dept	h needed to docum	ient the l	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			Features				
nches)	Color (moist)	<u>%</u>	Color (moist)	%	Type	Loc ²		Remarks
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- 17	2.545/1	70	7.5YR 4/6	30	<u> </u>	m	CL	2.54 increases in 90
								towards git bottom
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	oncentration, D=Dep ndicators: (Applic					d Sand Gr		cation: PL=Pore Lining, M=Matrix.
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	lipedon (A2)	-	Stripped Matrix					I Parent Material (TF2)
Black His		-	Loamy Mucky N) (except	MLRA 1)		y Shallow Dark Surface (TF12)
Hydroge	n Sulfide (A4)	_	Loamy Gleyed M	Aatrix (F2)			er (Explain in Remarks)
	Below Dark Surface	e (A11)	Completed Matrix	(F3)				
	rk Surface (A12)	-	Redox Dark Sur				³ Indicate	ors of hydrophytic vegetation and
•	ucky Mineral (S1)	-	Depleted Dark S		7)			and hydrology must be present,
	leyed Matrix (S4)		Redox Depressi	ons (FB)			unles	ss disturbed or problematic.
- 4 - 1 - 4 to I				0110 (1 0)			unies	a disturbed of problematic.
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Type: Depth (inc marks: A+ bask See page DROLOO tland Hyd mary Indic Surface V High Wat Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Surface S Inundatio	Ches): Control of Cut Clope GY GY GY Grology Indicators: ators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	me required	Check all that apply Check all that apply Water-Stain MLRA Check all that apply Che	(build) ned Leave (, 2, 4A, a (B11) ertebrate: Sulfide Oc hizospher of Reduce on Reductio Stressed	es (B9) (ex ind 4B) s (B13) for (C1) res along f d Iron (C4 on in Tilleo Plants (D'	xcept Living Roo I) J Soils (C6	Hydric Soil	I Present? Yes X No No Indary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Secomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type: Depth (inc marks: A+ bask See page DROLOO tland Hyd mary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Dept Surface S Inundatio Sparsely	ches): conf Cut Slope GY frology Indicators: rators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial I Vegetated Concave	me required	Check all that apply Check all that apply Water-Stain MLRA Check all that apply Che	(build) ned Leave (, 2, 4A, a (B11) ertebrate: Sulfide Oc hizospher of Reduce on Reductio Stressed	es (B9) (ex ind 4B) s (B13) for (C1) res along f d Iron (C4 on in Tilleo Plants (D'	xcept Living Roo I) J Soils (C6	Hydric Soil	I Present? Yes No No Indary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Secomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (inc marks: A+ bask See Page DROLOO Mary Indic Surface N High Wal Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Mar Iron Dep Surface S Inundatio Sparsely	Contrology Indicators: Contrology Indicators: Contro	me required	Check all that apply Check al	(build) ned Leave I, 2, 4A, a B11) ertebrate: Sulfide Oc hizospher of Reduce of Reduce of Reduce Stressed lain in Re	es (B9) (ex ind 4B) s (B13) for (C1) res along f d Iron (C4 on in Tilleo Plants (D'	xcept Living Roo I) J Soils (C6	Hydric Soil	I Present? Yes No No Indary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Secomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (incomerce) marks: Aff base See Page DROLOG etland Hyde imary Indice Surface V High Wale Saturatio Water Ma Sedimen Drift Dep Algal Mai Iron Depu Surface S Inundatio Sparsely and Observer	Contrology Indicators: Contrology Indicators: Contro	magery (B7 Surface (B es N	Check all that apply Check al	(build ned Leave 1, 2, 4A, a B11) ertebrates Sulfide Oc hizospher of Reduce of Reduce of Reduce Stressed lain in Re hes):	es (B9) (ex ind 4B) s (B13) for (C1) res along f d Iron (C4 on in Tilleo Plants (D'	xcept Living Roo I) J Soils (C6	Hydric Soil	I Present? Yes No No Indary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Secomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Type: Depth (incomercises) Aff base Sec Page DROLOG etland Hyde imary Indico Surface N High Wale Saturatio Water Ma Sedimen Drift Dep Algal Mar Iron Dep Surface S Inundatio Sparsely	Contrology Indicators: Contrology Indicators: Contro	magery (B7 Surface (B es N es N	Check all that apply Check al	(build) ned Leave (, 2, 4A, a (B11) ertebrate: Sulfide Oc hizospher of Reduce of Reduce of Reduce Stressed tain in Re hes):	es (B9) (ex nd 4B) s (B13) lor (C1) res along I d Iron (C4 on in Tilleo Plants (D' marks) N/A	xcept Living Roo) d Soils (C6 1) (LRR A)	Hydric Soil	I Present? Yes No No Indary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Secomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)

Remarks: Hydrology likely a rout of hillside cut that collects water and/or has intercepted a grandwater table allowing for wolland hydrology.

 $\hat{\mathbf{v}}$



sulting Engineers WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

& Geologists, Inc.	
Project/Site: Garberville City/County: Hu	Imboldt Sampling Date: 510 23
Applicant/Owner: Garberville Sanitary District	State: CA Sampling Point: TP 28
Investigator(s): Joseph Saler, Cindy Wilcox Section, Townsh	
Landform (hillslope, terrace, etc.): hill dope Local relief (cor	
Subregion (LRR): A. MLRA-4B	Long: -123.794851° Datum: WGS 84
Soil Map Unit Name: 311: Whan land - Garbonine 5-15% Slope	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answers in Remarks,)
SUMMARY OF FINDINGS – Attach site map showing sampling per	
Hydrophytic Vegetation Present? Yes No X	
	ampled Area
Wetland Hydrology Present? Yes No X within a	Wetland? Yes No X
Remarks:	2 5027
TP excavated on slope just above wetland describe	a in TP27.
VEGETATION – Use scientific names of plants.	
Tree Stratum (Plot size: 30 ft) Absolute Dominant Indi % Cover Species? State	atua
	Number of Dominant Species
2. Quercus heloggii 10 K	That Are OBL, FACW, or FAC: (A)
	Total Number of Dominant 7
	Species Across All Strata: (B)
2.0 = Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: <u>514</u>) 1. Baccharis Diluloris ssp. caronguinea 20 N	Prevalence Index worksheet:
	Total % Cover of: Multiply by:
2 Genste mars possilana 15 N	OBL species x1 =
3. Rubus omnavacus	FACW species x 2 =
4. Heterameles arbutitolia 5 N	FAC species x 3 =
5 58 = Total Covera	FACU species x 4 =
Herb Stratum (Plot size: 54) 58 = Total Covera	UPL species x 5 =
1. Vinca major 50 V FA	(A) (B)
2. Pertogramma triangularis 10 N	
3.	Prevalence Index = B/A =
4	Hydrophytic Vegetation Indicators:
5	1 - Rapid Test for Hydrophytic Vegetation
6	2 - Dominance Test is >50%
7	3 - Prevalence Index is ≤3.0'
8	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9	5 - Wetland Non-Vascular Plants
10	Problematic Hydrophytic Vegetation ¹ (Explain)
11.	¹ Indicators of hydric soil and wetland hydrology must
	he present unloss disturbed as problematic
Woody Vine Stratum (Plot size: 277)	
1. Taxicodadon diversilation 5 V F	Hydrophytic
2	Vegetation Present? Yes No
% Bare Ground in Herb Stratum 405 = Total Cover	Present? Yes <u>No </u>
Remarks: Vertician reflect word well damed conditions.	High cover by non-natives are a
result of close brotinety to development	

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

SOIL

OIL		Sampling Point: TP 28 Sector
Profile Description: (Describe to the	e depth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %		Texture Remarks
0-12 7.5483/2 10	0 / /	Sil
2-16+ 2.54 5/2 70	2 7.5 VO 4/1 10 C M	71
	104R5/6 20 C M	<u> </u>
Type: C=Concentration, D=Depletion,	, RM=Reduced Matrix, CS=Covered or Coated Sand Gra	ains. ² Location: PL=Pore Lining, M=Matrix.
	to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls 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)	Very Shallow Dark Surface (TF12)
→ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
K Depleted Below Dark Surface (A11	1) 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)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		2
Туре:		
Depth (inches):		Hydric Soil Present? Yes X No
metland servario	y at announces. Transition	al soils - mid slope above
		iac solis - midistope and m
YDROLOGY	-	iac solis - mici slope and r
YDROLOGY Wetland Hydrology Indicators:		
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one rec	quired; check all that apply)	Secondary Indicators (2 or more required)
/DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one rec Surface Water (A1)	Quired; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
/DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one red Surface Water (A1) High Water Table (A2)	ouired: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	 <u>Secondary Indicators (2 or more required)</u> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Vetland Hydrology Indicators: Inimary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3)	<u>auired; check all that apply)</u> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Sait Crust (B11)	 <u>Secondary Indicators (2 or more required)</u> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Vetland Hydrology Indicators: trimary Indicators (minimum of one rec Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Auired; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (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)
YDROLOGY Vetland Hydrology Indicators: Vrimary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Quired; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 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)
Vetland Hydrology Indicators: rimary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Quired: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roo	 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)
Vetland Hydrology Indicators: rimary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Quired: check all that apply)	 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)
Vetland Hydrology Indicators: rimary Indicators (minimum of one red 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)	Quired: check all that apply)	Secondary Indicators (2 or more required)
Vetland Hydrology Indicators: rimary Indicators (minimum of one rec 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)	Quired: check all that apply)	Secondary Indicators (2 or more required)
/DROLOGY /etland Hydrology Indicators: <pre> ctimary Indicators (minimum of one red 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 Imaged </pre>	Auired: check all that apply)	Secondary Indicators (2 or more required)
/DROLOGY /etland Hydrology Indicators: crimary Indicators (minimum of one rec 	Auired: check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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 Imager Sparsely Vegetated Concave Surfations:	Aquired; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one rec 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 Imager Sparsely Vegetated Concave Surfa ield Observations: urface Water Present? Yes	auired; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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 Imager Sparsely Vegetated Concave Surfat ield Observations: Water Table Present? Yes	Quired: check all that apply)	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)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one red 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 Image Sparsely Vegetated Concave Surfations: urface Water Present? Yes Vater Table Present? Yes aturation Present? Yes	Quired: check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one rec 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 Imager Sparsely Vegetated Concave Surfa ield Observations: Surface Water Present? Yes aturation Present? Yes raturation Present? Yes aturation Present? Yes Saturation Present? Yes	Quired: check all that apply)	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)
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 Imaged Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Nater Table Present? Yes Saturation Present? Yes includes capillary fringe) Describe Recorded Data (stream gauge	Aquired: check all that apply)	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)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one red 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 Imager Sparsely Vegetated Concave Surface Surface Water Present? Yes Saturation Present? Yes Mater Table Recorded Data (stream gauge	Quired: check all that apply)	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) and Hydrology Present? Yes No
Vetland Hydrology Indicators: rimary Indicators (minimum of one red 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 Image Sparsely Vegetated Concave Surfa ield Observations: urface Water Present? Yes aturation Present? Yes aturation Present? Yes acturation Present? Yes capitale Present? Yes Surface Scillary fringe) escribe Recorded Data (stream gauge emarks:	Quired: check all that apply)	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) and Hydrology Present? Yes No
DROLOGY (etland Hydrology Indicators: timmary Indicators (minimum of one red 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 Imager Sparsely Vegetated Concave Surfaceld Observations: urface Water Present? Yes ater Table Present? Yes aturation Present? Yes a	Aquired: check all that apply)	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) and Hydrology Present? Yes No
/DROLOGY /etland Hydrology Indicators: timary Indicators (minimum of one red _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 Imager _Sparsely Vegetated Concave Surfacel Observations: urface Water Present? Yes _aturation Present? Yes _marks:	Quired: check all that apply)	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) and Hydrology Present? Yes No

OHWM Delineation Cover Sheet of 🚺 Page Project: (sorverville Date: 4/12 Location: Wallan Investigator(s): Josen **Project Description:** Tank and Water distribution replacement and repairs Describe the river or stream's condition (disturbances, in-stream structures, etc.): Seasonal stream, moderately incised within steep Lilbide ravine. Ravinestopes are knested, deep litter and debris. OHWM: 46in **Off-site Information Remotely sensed image(s) acquired?** Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description: Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe below.] Description: List and describe any other supporting information received/acquired: Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet #

1

OHWM Delineation Datasheet

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length) Ustream bouing OHWM 46in Dost Break in Slope at OHWM: Sharp (> 60°) | Moderate (30–60°) | Gentle (< 30°) | None Notes/Description: Devely under cut bank on left, minimal breaking slope on right 10 Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM Clay/Silt Sand Gravel Cobbles Boulders **Developed Soil** <0.05mm 2mm - 1cm>10cm 0.05 - 2mm1 - 10 cm Horizons (Y/N) 3 22 5 50 10 Above OHWM 1.0 Below OHWM 35 5 Notes/Description: Rochy gravely sitt loan above OHWM. Ban Iders, cabbles + gravel downant below OHWM. Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM Tree (%) Shrub (%) Herb (%) Bare (%) 85 Above OHWM Ø Litter +mass 100 gravel +/itter **Below OHWM** Forest campy extends over small stream. No herbaceous and minimal Moos covertedow DHWM. Forns + dose mass over above OHVM. Other Evidence; List/describe any additional field evidence and/or lines of reasoning used to support your delineation - Drift / Wrack - Underent banks - Root exposure - Erosian / Scour -sediment sortine

OHWM Delineation Cover Sheet Page of JO Project: Garberville Shitary District Date: 4/15 OHWM#2 Investigator(s) Location: Corberville Jater **Project Description:** Water tank and distribution line replacement and repairs. Describe the river or stream's condition (disturbances, in-stream structures, etc.): Headwater of small stream. OHWM indicators not provert undil downshipe of small culvert draining residential imperview Surfacer. Stream charnel excavated at First, becomes notional further downshipe. OHWM 14 inclus **Off-site Information** Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description: Hydrologic/hydraulic information acquired? 🗌 Yes 🕅 No [If yes, attach information to datasheet(s) and describe below.] Description: List and describe any other supporting information received/acquired: Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # 2		OHWM Delineation Datasheet			1	Page 4 of 🦉		
Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)								
Looking yostream WHANKE HANN (14 indes) 1.5"								
Break in Slope at OHWM: Sharp (> 60°) Moderate (30–60°) Gentle (< 30°) None								
Notes/Description: SANAIL OHWM at bottom of what appears to be a historically excavated channel. Becomer								
Natural ~ 50ft downstream of Cota point. Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM								
Sediment Textur	Clay/Silt	entages to describ Sand	be the general sed Gravel	Cobbles	Boulders	Developed Soil		
	<0.05mm	0.05 – 2mm	2mm – 1cm	1 – 10cm	>10cm	Horizons (Y/N)		
Above OHWM	19	20	1	Ø	10	Y (Minima))		
Below OHWM 55 30 15 O N								
Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM Tree (%) Shrub (%) Herb (%) Bare (%)								
Above OHWM	50	Ø	95%		is lover)			
Below OHWM	50	Ø	5	05%	1			
Notes/Description:								
Perse grass and forb over above UMVVIV, minimal united								
Notes/Description: Dense grads and Lorb over above OHWM, Minimal annual Lorb cover below OHWM. Young Machoaks within excavated channel above OHWM.								
Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation								
- Erosion/scruv - Drift /wrach								
-sediment serting - Undercut bonks								
- Underrist brokes								

Page 5 **OHWM Delineation Cover Sheet** of 0 Project: Gorberville Santon District Date: 4/15/2022 OHWM# 3 Investigator(s): Joseph Jaler, Location: Garberv **Project Description:** Water tank and distribution lines replacement and repairs. Describe the river or stream's condition (disturbances, in-stream structures, etc.): Small Stream, notwal conditions downstream of study area. Large fill prism in stream for racidway obscures OHWM and Stream conditions. OHWM: 30in **Off-site Information Remotely sensed image(s) acquired?** Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description: Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe below.] Description: List and describe any other supporting information received/acquired: Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

OHWM Delineation Datasheet Datasheet # 6 Page of 10 Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length) Upstream Pristop =) = OHWM (30 :..) Break in Slope at OHWM: X Sharp (> 60°) | Moderate (30–60°) | Gentle (< 30°) | None Notes/Description: Shallow officer with Shap breakin Shops and indercut bank. Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM Clay/Silt Sand Gravel Cobbles **Boulders** Developed Soil <0.05mm 0.05 – 2mm 2mm - lcm1 - 10 cm >10cm Horizons (Y/N) 57 3 \mathcal{O} Above OHWM Whimal 20 61) Ø Below OHWM 5 + concrete Notes/Description: Convote fill preset in channel, increasing yestream. Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM Tree (%) Bare (%) Shrub (%) Herb (%) 50 Ð 82) (N Above OHWM Below OHWM 50 Dese brandle cave above OHWM, crosses are stream making movement along the stream nearly impossible. Natural Carditians downstream Notes/Description: Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation -undercut banks - Gosim Lour - Schimentsorting - Drift/ wrach - Litter removal

OHWM Delineation Cover Sheet Page 4 of 0 Project: <u>Garbonille Sanitary District</u> Date: <u>4/15/22</u> Location: <u>Garbonille</u> OHWM#4 Investigator(s): <u>Joseph Saler, Cunaywilen</u> Water tank and distribution lines replacement and repairs. **Project Description:** First segment of drainage al water flowing. On steep hillside below "Gsp water tank tomase. Below old roadway aljunus & close hydric soils (TPq). Headnotors of stream, becoming progressively larger dowslipe and away from study orea OHWM 18in . 0.5in alway algun OHWM 18in, 0.5 in above thatmay **Off-site Information Remotely sensed image(s) acquired?** Yes [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description: Hydrologic/hydraulic information acquired? 🗌 Yes 🛛 🔯 No [If yes, attach information to datasheet(s) and describe below.] Description: List and describe any other supporting information received/acquired: Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet #

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Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length) anni unstream OHNM (18in) 0.50 Sharp (> 60°) \square Moderate (30–60°) \square Gentle (< 30°) \square None Break in Slope at OHWM: Notes/Description: Other on steep unstake hill side - many pistol-butted & failing trees. Active? landslide Zone. Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM Clay/Silt Sand Gravel Cobbles Boulders Developed Soil <0.05mm 0.05 - 2mm2mm - 1cm1-10 cm >10cm Horizons (Y/N) 30 Above OHWM 70 Ð Ø Ø (taint 30 50 20 R Ð **Below OHWM** Notes/Description: Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM Tree (%) Shrub (%) Herb (%) Bare (%) 20* Mass + Feer Above OHWM XO 50 30 Ø Below OHWM Notes/Description: Tree Canopy extends over small stream. Shubs abundant as one woody Vines. (apply potentian Herbaceans + mass abundant above OHWM, non-existing below OHWM. Notes/Description: Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation - Erasian /scorr - under cut banks - Litter renaval - Exposed roots

OHWM Delineation Cover Sheet Page 9 of 10 Project: Garborville SD Date: 4/27 Location: Melville Rd Gaberville OHWM#5 Investigator(s): Joseph Saler **Project Description:** Tank and distribution line replacement and repair. Describe the river or stream's condition (disturbances, in-stream structures, etc.): Deeply inised second stream. Flows augmented by roadide motif diverted through culvert. No OHWM above culvert. Stream occurs w/i natural ravine. OHWM becomes observed or it flows into porous soils before developing into a wetland as mapped. OHWM: 17 inches across 4inches above that weg. **Off-site Information** Remotely sensed image(s) acquired? Ves X No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description: Hydrologic/hydraulic information acquired? 🗌 Yes 🕅 No [If yes, attach information to datasheet(s) and describe below.] Description: List and describe any other supporting information received/acquired: Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent acrial image or their GPS coordinates noted on the datasheet.

Datasheet	#	5

OHWM Delineation Datasheet

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length) JOWN YOUTCOM OHWM 17 in across, 4 in. above thalweg 6in RA OHWM 17in - Porsc hype caro - Yin Break in Slope at OHWM: \Box Sharp (> 60°) \Box Moderate (30–60°) \Box Gentle (< 30°) \Box Nonc Notes/Description: steep undercut bank becomes less steep at OHWM on left bank. Small shelf above OHWM and below stepp cut on right bonh. Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM Clay/Silt Sand Gravel Cobbles Boulders Developed Soil <0.05mm 0.05 - 2mm2mm - 1cm1 - 10 cm>10cm Horizons (Y/N) Ø Above OHWM O0 90 12 N Below OHWM Notes/Description: some sediment sorting below OHNM as evidenced by small builders, colobles, and gravel with thes inbetween. Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM _ incl. litter + duff Tree (%) Shrub (%) Herb (%) Bare (%) 50* 50 50 Above OHWM 100Below OHWM 9 Ø Notes/Description: Notes/Description: Tree caropy extends across small stream as does shrub caropy, making 10% be passage along the OHWM difficult. Pase mors care above OHWM, los than 10% be OHWM. No varcular plants below OHWM. Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation - Drift /Wrach - Undercut bonks -Sediment sorting - Erosion/scour - Exposed rook -Head cut / knich point.

Site Photos

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Photo 1: Wallan tank site looking south. Note upland conditions around the tank with pooled water from tank leak. This area was not considered wetland due to the completely artificial conditions and lack of hydrophytes and hydric soils. Photo taken April 19, 2022.



Photo 2: Stream #1, looking upstream (North). Note steep sloping ravine and eroded stream channel. Intermittent stream flow lines are temporarily obscurred by litter and debris from forested slopes. Photo taken April 19, 2022.





Photo 3: Looking south along Alderpoint Road at Wetland #1 within the vicinity of TP1. Wetland conditions are restricted to the lowest elevations between the road surface and the hillslope as shown by hydrophytic vegetation. Photo taken April 19, 2022.



Photo 4: Looking northeast at Wetland #2 north of Alderpoint Road within a flat area. Note the hydrophytic vegetation dominance and slight depression. Photo taken April 19, 2022.





Photo 5: Purple needlegrass grassland representative conditions, looking east near the Wallan Tank site. Note dense cover by purple needlegrass and abundant seed production. Photo taken April 27, 2022.



Photo 6: California oatgrass meadow looking south. California oatgrass is dominant within this area near the Wallan Tank site. Photo taken April 27, 2022.





Photo 7: Wetland #3 near CalFire Station looking southwest. Note abundance of Harford's sedge. Photo taken May 10, 2023.



Photo 8: Looking down Hillcrest Drive (north) at head of Wetland #4 within the vicinity of TP8. Wetland continues downslope within inboard ditch. Photo taken April 19, 2022.





Photo 9: Looking east across Wetland #5 within the vicinity of TP10. Wetland conditions are contained within a shallow swale and are likely connected to Stream #2 and culvert in the topographic low point visible beyond the wetland scientist. Photo taken April 19, 2022.



Photo 10: Looking east toward Wetland #6. TP13 location (upland) shown by survey rod and wetland TP12 location shown by shovel. Melville Drive occurs immediately left of the photo which has created the basin containing the wetland. Photo taken April 19, 2022.





Photo 11: Stream #2, looking upstream (southeast) at OHWM delineation point 5. Note incised channel with OHWM conditions. Seasonal, intermittent stream without water at time of delineation. Photo taken May 2, 2022.



Photo 12: Looking south toward the drainage swale between the motel and trailer park visible upslope. Wetland #7 is in the left side of the photo. Note developed and disturbed nature of the area. Photo taken May 9, 2023.





Photo 13: Wetland #8 in slope failure slump with strong hydric soil and wetland hydrology indicators. Photo taken May 9, 2023.



Photo 14: Wetland #9 in hillslope cut, looking west. TP27 is located at the base of the shovel. Note arroyo willow cover. Photo taken May 10, 2023.





Photo 15: Wetland #10 located mid-slope in a large roadcut above U.S. Highway 101, looking west (TP19 at base of shovel). Photo taken May 9, 2023.



Photo 16: Stream #3 within the vicinity of OHWM 3, looking northeast into the ravine containing the stream. Note dense vegetation and stream conditions evident in the center of the photo. Photo taken April 15, 2022.





Photo 17: Stream #4 headwaters, looking downslope (southeast) within the vicinity of OHWM point 2 (at survey rod). Note stream is contained within a partially excavated swale. OHWM indicators begin just upslope of the OHWM delineation point. Photo taken April 15, 2022.



Photo 18: Stream #5 looking downstream within vicinity of OHWM 4. The culvert under U.S. Highway 101 is barely visible in the upper center of the photo. Note well defined channel. Flows are likely intermittent but were present during the delineation. Photo taken February 17, 2023.



Eureka, CA | Arcata, CA | Redding, CA | Willits, CA | Fort Bragg, CA | Coos Bay, OR | Klamath Falls, OR

